

TWENTY-SECOND ANNUAL REPORT

OF THE

SANITARY COMMISSIONER FOR BENGAL.

YEAR 1889.

BY

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SECTION I—METEOROLOGY.

SECTION II—EUROPEAN ARMY.

SECTION III—NATIVE ARMY.

SECTION IV—JAILS.

• UNDER the orders of the Government of India the above sections are not to be dealt with in Provincial Sanitary Reports, but are to be included only in the Annual Report of the Sanitary Commissioner with the Government of India.

SECTION V.

GENERAL POPULATION AND VITAL STATISTICS. :

2. The last Census of Bengal was taken in 1881 and disclosed a population of 65,859,534. This figure has since been taken as the basis of all calculations in the Annual Sanitary Reports of this Province. There is no doubt, however, that the population of Bengal is now greater than it was in 1881, but there is some difficulty in estimating how much greater it is. A fairly accurate method of doing so (if registration could be depended on) would be by adding to the census figures of 1881 the number by which the births since then have exceeded the deaths and the excess of immigration over emigration; but in Bengal this method of calculation cannot be adopted, as, under present arrangements, births are only registered in towns and are not registered in rural areas. The English method of estimating population in intercensal years is to assume that the rate of increase which obtained in the interval between the last two enumerations has been maintained in the succeeding years, and it appears that the Registrar-General of England has found this method to be trustworthy. On this principle the population of Bengal may now be estimated at 74,482,274.

BIRTHS.

3. As stated in the preceding paragraph, births are not registered in rural areas, but in towns only. In last year's Report it was stated that these events used at one time to be registered in rural circles as well as in towns, but that as the registration was extremely imperfect, and consequently of too little value to warrant its continuance, it was discontinued under the orders of the Government of Bengal. I think, however, that the time has arrived for the reintroduction of the registration of births in rural areas, as in its absence the vital statistics of the Province are incomplete. In other Provinces births are registered in rural areas as well as in towns, and there is no reason why Bengal should be backward in this respect.

4. There are 148 Municipal Towns in Bengal, and births are at present registered in 137 of them. The aggregate census population of these towns is 2,422,904, and it will be seen from Annual Form I attached to this Report that in the year under review 55,166 births were registered in them, against 53,972 births in 134 towns containing a population of 2,615,716 in 1888. The figures for 1889 give a birth-rate of 22·76 per 1,000 of the population, and those for 1888 a birth-rate of 20·63 per 1,000. The total male births numbered 29,218 (ratio 12·05), and the female births 25,948 (ratio 10·70), the former being to the latter in the proportion of 1,126 to 1,000, against 1,134 in the previous year.

5. As usual, Christians returned the highest birth-rate, viz., 27·75 per 1,000 of the population, Mahomedans come next (24·28), then Hindus (22·86), then Other Classes (17·38), and Budhists last (7·53). In 1888 the order was—Christians (24·85), Other Classes (22·47), Mahomedans (21·27), Hindus (20·69), and Budhists (13·05).

6. The total number of registered deaths in towns as usual exceeded the births, the excess of deaths over births per 1,000 of the population being 3·18. At first sight this result points to one of two conclusions—either that the registration of births must be very much neglected, or that the sanitary condition of the towns which return an excess of deaths over births must be very bad indeed; but on closer examination it will be found that neither of these conclusions can positively be said to be the only cause of the result. There is not the slightest doubt, as everybody knows who has experience of mofussil towns, that a larger proportion of births than deaths escape registration, and that many towns are in an insanitary condition, but a reference to the population of towns will show that the excess of deaths over births is in some measure due to the excess of male over female population. It is worthy of notice that in the towns which have a larger male than female population, the deaths exceed the births, while in those which have a larger female population the births exceed the deaths.

7. The following statement shows in order of sequence the towns which returned approximately correct results of birth registration in 1889, those which returned moderately correct results, and those which returned manifestly inaccurate figures:—

APPROXIMATELY CORRECT RESULTS.			MODERATELY CORRECT RESULTS.			VERY DEFECTIVE RESULTS.	
Districts.	Towns.	Ratio per mille.	Districts.	Towns.	Ratio per mille.	Districts.	Towns.
Durbhanga	Madhubani	38·22	Murshedabad	City Murshedabad ...	29·37	Mymensing	Muktagacha
Monghyr	Jamulpore	45·71	Chumbarun	Motihari	29·78	Backerganj	Jhalakati
Sonthal Pergunnahs ...	Dumka	43·85	24-Pergunnahs ...	Nalhatti	30·67	24-Pergunnahs ...	Gobardanga
Patna	Patna	45·29	Maldah	Maldah	36·97	Mymensing	Nasirabad
Mozufforpore	Sitamarhi	42·44	Mymensing	Jamulpore	28·89	Murshedabad	Jungipore
Backerganj	Perozepore	40·93	Seraмпore	Utterpara	28·67	24-Pergunnahs ...	Baduria
Khulna	Khulna	35·30	Bhagulpore	Bhagulpore	28·57	Mymensing	Tangail
Chumbarun	Bettiah	37·95	Bogra	Sherpur	28·48	24-Pergunnahs ...	South Saptarban ...

APPROXIMATELY CORRECT RESULTS.			MODERATELY CORRECT RESULTS.			VERY DEFECTIVE RESULTS.		
Districts.	Towns.	Ratio per mille.	Districts.	Towns.	Ratio per mille.	Districts.	Towns.	Ratio per mille.
Assam	Mohaspore	36.71	Shahabad	Jagdishpore	23.45	Murshedabad	Kandi	7.78
Burduja	Sewan	36.03	Midnapore	Ghatal	23.33	Backerganj	Barisal	7.81
Chittagong	Rampore Beaulah	35.92	Darjiling	Darjiling	27.79	Ditto	Nalchitti	8.56
Dumka	Serampore	35.66	24-Pergunnahs	North Dum-Dum	27.68	24-Pergunnahs	Taki	8.58
Malda	Kendrapara	34.97	Rungpore	Rungpore	27.62	Nuddea	Birnagar	8.79
Midnapore	Ramjibanpore	34.74	24-Pergunnahs	North Barrackpore	26.75	Mymensing	Kishoreganj	8.89
Nasirabad	Hazaribagh	34.49	Darjiling	Kuraong	26.53	Nuddea	Nuddea	9.78
Monghyr	Monghyr	33.74	Cuttack	Jajipore	26.52	Noakhali	Sudharam	10.34
Patna	Narainganj	33.51	Sarun	Chupra	26.37	Chittagong	Cox's Bazar	10.54
Perah	Brahmaueria	33.34	Midnapore	Tumlook	26.30	Khulna	Chunduria	11.03
Rubbhanga	Durbhanga	33.25	Shahabad	Dumraon	26.24	Nuddea	Ranaghat	11.05
Shahabad	Sasaram	33.00	Sonthal Pergunnahs	Rajmehal	26.04	24-Pergunnahs	Cossipore and Chitpore	11.83
Sa	Jehanabad	32.73	Midnapore	Chundrakona	25.78	Chittagong	Chittagong	12.41
Perah	Comilla	32.65	Burdwan	Cutwa	25.51	Patna	Patna	12.68
Nasirabad	Chattra	32.43	Bankura	Bankura	25.48	Khulna	Satkhi	13.27
Khulna	Dobhatta	31.91	Durbhanga	Roserah	25.04	24-Pergunnahs	Manicktolla	13.96
24-Pergunnahs	Rajpore	31.86	Shahabad	Arrah	24.73	Sonthal Pergunnahs	Deoghur	14.38
Hughli	Hughli	31.59	Burdwan	Dainhat	24.53	Shahabad	Buxar	14.71
Nuddea	Kustia	31.59	Fardpore	Madaripore	23.98	Gya	Arungabad	15.39
aldah	English Bazar	30.97	Monghyr	Shaikpura	23.96	Purneah	Purneah	15.45
Shahabad	Bhabua	30.90	Burdwan	Burdwan	23.94	Hughli	Shaddassar	15.47
ambhum	Purulia	30.84	Poori	Poori	23.92	24-Pergunnahs	Basirhat	15.60
run	Revilganj	30.56	Mozufferpore	Lalganj	23.71	Nuddea	Meherpore	15.70
Mymensing	Sherpur	30.19	24-Pergunnahs	Joynagore	23.68	Midnapore	Midnapore	15.73
24-Pergunnahs	South Dum-Dum	30.18	Pubna	Sorajanj	23.37	Singbhum	Chyassa	15.81
Nuddea	Kumerkhali	30.12	Patna	Behar	23.46	Burdwan	Culua	16.82
			Dinajpur	Dinajpur	23.25	Birbhum	Soori	16.43
			Howrah	Howrah	23.21	24-Pergunnahs	Baripore	16.66
			Midnapore	Khirpai	23.10	Bankura	Sonamukhi	16.63
			Burdwan	Raniganj	23.04	Jessore	Jessore	16.71
			Hughli	Bansberia	23.04	Hughli	Jehanabad	17.32
			Gya	Gya	23.04	Lohardugga	Ranchi	17.66
			Monghyr	Burhis	22.77	Dacca	Dacca	17.71
			Bogra	Bogra	22.49	Cuttack	Cuttack	17.83
			Serampore	Kotrung	22.44	Nuddea	Santipore	18.69
			Faridpore	Faridpore	22.21	Murshedabad	Borhampore	18.89
			24-Pergunnahs	Baraset	21.93	Burdwan	Assensole	18.97
			Monghyr	Jamoi	21.90	Sonthal Pergunnahs	Shahabganj	19.04
			Gya	Nowada	21.83	Mymensing	Bazitpore	19.39
			Mozufferpore	Hajipore	21.67	Nuddea	Kishnagar	20.68
			Howrah	Bali	20.92	24-Pergunnahs	South Barrackpore	20.70
			Patna	Barh	20.79	Serampore	Baidyabatti	19.77
			Bankura	Bissenpur	20.73			
			24-Pergunnahs	Baranagore	20.61			
			Mozufferpore	Mozufferpore	20.28			

It will be seen that the highest results were returned from Madhubani in Durbhanga, Jamalpore in Monghyr, Dumka in Sonthal Pergunnahs, Pubna, Sitamarhi in Mozufferpore, and Perozepore in Backerganj, in all of which the recorded birth-rate exceeded 40 per mille—the supposed standard birth-rate in India. The lowest results were returned from Muktagacha in Mymensing, Jhalakati in Backerganj, Goberdanga in 24-Pergunnahs, Nasirabad in Mymensing, Jungipore in Murshedabad, Baduria in 24-Pergunnahs, Tangail in Mymensing, South Suburban, Kandi in Murshedabad, Barisal and Nalchitti in Backerganj, Taki in 24-Pergunnahs, Birnagar in Nuddea, Kishoreganj in Mymensing, and Nuddea, in all of which the birth-rate was below 10 per mille. In last year's Report the ridiculously low birth-rate returned from the towns of Jhalakati in Backerganj and Muktagacha in Mymensing was brought prominently to the notice of Government. This year again the figures returned from these

towns are palpably inaccurate, and so, but in a lesser degree, are all the figures returned from all the towns shown in the very defective results column of the above statement. Taken as a whole, however, there is an advancement towards accuracy in the registration of births in towns which is encouraging.

DEATHS.

8. The total number of deaths registered in Bengal during 1889, not including 41,994 still-births, amounted to 1,597,478, against 1,515,735 in 1888, and an average of 1,470,558 in the five years 1884—88. These figures correspond to annual death-rates of 24.25, 22.94, and 22.32 respectively. It will be observed that the death-rate of 1889 was in excess of both the past periods with which it is compared, but as the year under review was not, in the opinion of the local medical officers, a more unhealthy one on the whole than 1888, the higher death-rate can only be ascribed to better registration. But if the population of Bengal be estimated at 74,482,274, the death-rate for 1889 would be 21.44. Of the 1,597,478 deaths registered in 1889, 856,574 were males and 740,904 females, the former being to the latter in the proportion of 1,175 to 1,000, against 1,164 in the preceding year.

According to Class or Nationality.

9. Divided into class or nationality, the deaths were as follows:—

	IN 1889.		IN 1888.		IN 1884—88.		INCREASE OR DECREASE AS COMPARED WITH 1888.		INCREASE OR DECREASE AS COMPARED WITH 1884—88.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Christians	1,553	16.99	1,020	15.89	1,251	12.88	67 D	10 I	302 I	3.11 I
Hindus	1,053,409	24.65	978,906	22.84	951,403	22.27	74,563 I	1.81 I	101,800 I	2.38 I
Mahomedans	505,481	23.74	488,837	23.35	486,938	22.87	6,644 I	39 I	18,543 I	37 I
Buddhists	1,985	21.16	1,110	16.50	1,173	14.73	869 I	4.96 I	512 I	0.43 I
Other Classes	35,290	21.17	35,056	21.02	29,533	17.71	234 I	15 I	5,757 I	3.46 I

It will be seen that, compared with the figures of 1888 and the five years 1884—88, there was an increase in the year under report in the number of deaths recorded under all heads except Christians, under which there was a trifling decrease as compared with 1888. The ratios per mille, however, under all heads were greater in 1889 than in 1888 or 1884—88. Prior to 1889, deaths occurring among non-Asiatics and mixed races were not included under the head Christians, which included Native Christians only; but since the beginning of 1889, the heading Christians includes, under the orders of Government, all believers in Christ, irrespective of nationality.

10. The following statement shows the mortality according to age of the years 1889, 1888, and the average of the five years 1884—88:—

According to Age and Sex.

	IN 1889.		IN 1888.		IN 1884—88.		INCREASE OR DECREASE AS COMPARED WITH 1888.		INCREASE OR DECREASE AS COMPARED WITH 1884—88.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Under 1 year	220,390	172.07	252,057	162.91	209,234	135.16	13,423 I	9.16 I	57,146 I	36.91 I
1 year and under 5 years	217,651	20.70	211,518	25.88	212,446	26.08	6,133 I	82 I	5,208 I	64 I
5 to 10 years	125,969	12.76	119,789	12.10	121,584	12.31	6,270 I	66 I	4,415 I	45 I
10 .. 15	78,566	11.66	71,109	10.54	71,509	10.62	7,367 I	1.12 I	6,007 I	1.04 I
15 .. 20	82,556	16.51	73,002	14.54	78,236	14.64	9,554 I	1.97 I	9,320 I	1.87 I
20 .. 30	172,217	15.60	164,873	16.85	167,748	15.80	7,044 I	75 I	4,476 I	40 I
30 .. 40	166,002	17.44	169,408	16.85	161,110	16.88	5,894 I	68 I	4,892 I	51 I
40 .. 50	146,366	23.00	139,757	21.87	138,707	21.81	6,609 I	1.13 I	7,569 I	1.19 I
50 .. 60	128,108	32.87	124,207	31.28	121,904	31.26	5,901 I	1.59 I	6,804 I	1.81 I
60 years and upwards	213,633	57.69	200,865	53.59	192,934	52.10	15,448 I	4.10 I	20,699 I	5.89 I

The mortality of all the age periods was higher in 1889 than in 1888 or the average of the five years 1884—88; but, as usual, the death-rate was highest among infants under one year of age, the ratio per mille in 1889 being 9.16 in excess of 1888 and 36.91 in excess of the average rate of the five years 1884—88. In last year's Report I remarked that infant mortality was apparently increasing. The figures of 1889 bear out that statement. The increase in 1889 is no doubt due, in some measure, to better registration, but that does not altogether account for the large excess which I fear is due to causes of local insanitation and the prevailing social condition of the people. The mortality among children over one year and under five years of age is also much higher than it ought to be, and the large number of deaths in

that period of life is no doubt due to the same cause as the high rate of infant mortality. The age period of greatest immunity during the year under report was, as is generally the case, between the ages of 10 and 15, the rate being 11.66 per mille, against 10.54 in 1888. The mortality among persons 60 years of age and upwards was at the rate of 57.69 in 1889, against 59.59 in 1888 and 52.10 in 1884—88. The death-rate of this age period in 1889 was thus 4.10 in excess of 1888 and 5.59 in excess of 1884—88. The deaths by sexes according to age will be found in Annual Form IV attached to this Report.

11. The following statement shows the rates of mortality distributed according to months. Detailed information under this head will be found in Annual Form III attached to this Report:—

	January	February	March	April	May	June	July	August	September	October	November	December
1889	1.01	1.46	1.73	2.88	1.74	1.64	2.09	1.92	2.05	2.25	2.24	2.60
1888	2.09	1.59	1.75	1.99	1.70	1.50	1.72	1.65	1.80	2.20	2.12	2.51

The most unhealthy months of 1889 were April, July, September, October, November, and December, while the most unhealthy months of 1888 were October, November, December, and January. These are usually the most unhealthy months of the year. The high rate of mortality in 1889 in April and July was due principally to an unusually large number of deaths from cholera in those months. April was exceptionally hot, and the rains were late in breaking.

12. The statement in the margin compares the mortality from cholera, Comparative mortality in Bengal, Behar, Orissa, and small pox, fevers, and bowel-complaints in Bengal, Behar, Orissa, and Chota Nagpore.

	In 1889.	In 1888.	In 1884—88.	Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884—88.
<i>Cholera.</i>					
Orissa	12.82	2.15	4.28	10.67 I	8.54 I
Behar	2.01	1.61	1.90	.40 I	.02 I
Bengal	1.09	1.06	2.07	.98 I	.08 D
Chota Nagpore	1.09	1.88	1.41	.11 I	.58 I
<i>Small-pox.</i>					
Orissa	.54	.36	.33	.02 D	.01 I
Behar	.20	.16	.23	.04 I	.03 D
Bengal	.03	.02	.03	.01 I	.01 I
Chota Nagpore	.00	.02	.00	.04 I	.03 D
<i>Fevers.</i>					
Bengal	17.61	17.08	17.23	.07 D	.38 I
Behar	16.71	16.08	15.45	.94 I	1.26 I
Chota Nagpore	15.02	17.40	11.18	1.87 D	1.44 I
Orissa	9.53	7.45	7.41	2.08 I	2.12 I
<i>Bowel-complaints.</i>					
Orissa	3.71	3.08	3.10	.63 I	.61 I
Chota Nagpore	1.44	1.58	1.29	.14 D	.21 I
Bengal	.59	.63	.64	.04 D	.05 D
Behar	.54	.52	.71	.02 I	.17 D

Comparative mortality in Urban and Rural Circles.

	In 1889.			In 1888.			In 1884—88.			INCREASE OR DECREASE AS COMPARED WITH 1888.			INCREASE OR DECREASE AS COMPARED WITH 1884—88.		
	Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.
Cholera	3.61	2.56	2.59	4.44	1.58	1.68	3.58	2.07	2.12	.83 D	.98 I	.91 I	.03 I	.49 I	.47 I
Small-pox	.29	.12	.13	.16	.09	.00	.37	.11	.12	.13 I	.03 I	.04 I	.08 D	.01 I	.61 I
Fevers	10.84	16.93	16.72	10.30	16.70	16.63	11.42	16.08	15.87	.54 I	.16 I	.10 I	.58 D	.90 I	.55 I
Bowel-complaints	3.05	.72	.60	2.97	.70	.78	3.03	.76	.84	.08 I	.02 I	.02 I	.02 I	.04 D	.04 D
Injury	.52	.46	.46	.45	.40	.40	.46	.41	.41	.07 I	.06 I	.06 I	.06 I	.05 I	.05 I
Other causes	6.70	8.41	8.52	6.51	3.31	3.43	5.66	2.85	2.94	.19 I	.10 I	.09 I	1.04 I	.56 I	.88 I
TOTAL	25.03	24.22	24.25	24.66	22.67	22.94	24.54	22.25	22.32	.17 I	1.35 I	1.31 I	.40 I	1.07 I	1.08 I

It will be seen that there was an increase in 1889 in the total registered death-rates both of towns and of rural areas, not only as compared with the previous year, but also with the average of the five years 1884—88. The death-rate from the several diseases, except fever, was higher in towns than in rural areas, which is in accordance with the experience of past years. The death-rate from fever, as usual, was considerably higher in rural areas than in towns, which is no doubt due to the more defective nature of the drainage of rural areas than of towns.

14. The following statement shows in order of sequence the death-rates of Districts and for 1889, 1888, and the average of the five years 1884—88 in districts exclusive of the principal Towns in order of sequence.

towns and in the principal towns of the Province, i.e., towns with a population of over 5,000 inhabitants:—

DISTRICTS EXCLUSIVE OF THE PRINCIPAL TOWNS.				PRINCIPAL TOWNS, i.e., WITH A POPULATION OF OVER 5,000.				Number of prosecutions in 1889, under Act IV (B.C.) of 1874.	
Districts.	Ratio per 1,000 of population.			Districts.	Towns.	Ratio per 1,000 of population.			
	In 1889.	In 1888.	Mean of 1887-89.			1889.	1888.		Mean of 1887-89.
Poori ...	44.47	21.48	24.21	Poori ...	Poori ...	71.49	32.96	54.83	13
Balasore ...	38.93	22.02	24.45	Manbhum ...	Purulia ...	49.54	50.30	25.80	16
Darjiling ...	36.28	26.83	24.46	Rungpore ...	Rungpore ...	47.29	23.63	35.78	47
Jalpaiguri ...	33.27	23.09	29.44	Serampore ...	Serampore ...	46.08	40.68	38.68	26
Noakhali ...	32.04	25.58	22.59	Burdwan ...	Raniganj ...	42.33	45.16	20.99	20
Purneah ...	31.09	23.23	20.00	Gya ...	Gya ...	42.27	40.34	40.89	7
Backerganj ...	30.71	27.73	27.56	24-Pergunnahs ...	Cossimbore ...	38.94	Newly created.		
Cuttack ...	30.54	20.62	20.79	Monshyr ...	Jamshapore ...	38.56	38.78	39.07	2
Monshyr ...	30.51	27.99	28.02	Murshedabad ...	City Murshedabad ...	37.90	33.82	39.46	40
Dinajpur ...	28.05	29.72	28.41	Serampore ...	Uttarpara ...	37.74	29.03	23.77	10
Birbhum ...	27.43	20.55	25.63	24-Pergunnahs ...	Baranagore ...	36.68	30.65	24.41	33
Shahabad ...	27.06	25.79	27.48	Monshyr ...	Shaikpura ...	36.78	27.72	34.75	
Bhagulpore ...	27.06	24.43	26.11	24-Pergunnahs ...	Najpore ...	35.17	31.87	19.95	
Patna ...	26.90	21.62	25.63	Dacca ...	Raniganj ...	34.49	29.45	26.35	10
Serampore ...	26.88	20.61	19.11	Darjiling ...	Narail ...	34.34	28.56	21.23	8
Jessore ...	26.12	22.80	23.05	24-Pergunnahs ...	Barhanganj ...	33.46	27.92	28.86	
Gya ...	26.07	27.90	27.27	Dinajpur ...	Dinajpur ...	33.43	31.52	21.97	5
Murshedabad ...	25.91	24.51	24.71	Hazaribagh ...	Hazaribagh ...	32.34	30.06	26.85	70
Rajshahye ...	25.78	26.23	30.63	Mozufferpore ...	Sitamarhi ...	32.16	22.83	30.20	2
Hazaribagh ...	25.28	30.90	23.80	Cuttack ...	Kondrapara ...	31.98	25.35	25.99	11
Khulna ...	25.05	26.88	23.87	Hughli ...	Hughli ...	31.87	27.60	39.19	36
Hughli ...	24.80	23.82	21.24	Cuttack ...	Jalipore ...	31.60	18.42	18.60	17
Maldah ...	24.41	32.04	24.13	Maldah ...	English Bazar ...	31.37	26.46	20.81	30
Burdwan ...	24.10	21.03	21.80	Gya ...	Daudnagore ...	31.10	31.20	25.93	
Rungpore ...	24.01	27.37	26.06	Durbhanga ...	Durbhanga ...	31.06	24.61	27.44	11
Howrah ...	23.99	23.77	20.07	Sarun ...	Raniganj ...	30.57	34.89	32.25	
Tipperah ...	23.75	20.60	18.60	24-Pergunnahs ...	Nalhati ...	30.55	22.38	28.93	66
Bogra ...	23.58	26.04	26.63	Monshyr ...	Monshyr ...	30.46	24.81	26.51	2
Lohardugga ...	23.46	24.62	19.62	Purneah ...	Purneah ...	30.30	19.24	30.96	19
Midnapore ...	23.24	23.68	21.47	Burdwan ...	Burdwan ...	29.67	24.73	30.39	150
Nudda ...	22.27	23.65	31.44	Chumprun ...	Bettiah ...	29.81	41.24	34.00	6
Pubna ...	21.67	23.41	28.41	Rajshahye ...	Rampore Beaulah ...	29.50	41.51	37.79	13
Chittagong ...	21.33	21.13	16.76	Balasore ...	Balasore ...	28.96	18.70	26.74	42
Dacca ...	21.04	18.32	30.89	24-Pergunnahs ...	Auxupara ...	28.97	26.69	24.67	12
Faridpore ...	20.90	16.27	16.67	Jalpaiguri ...	Jalpaiguri ...	28.86	21.14	22.62	11
Bankura ...	20.82	10.07	17.87	Jessore ...	Jessore ...	28.48	18.50	21.83	38
Manbhum ...	19.82	22.35	16.80	Shahabad ...	Dumraon ...	28.25	25.11	25.28	
Singbhum ...	19.03	19.74	19.16	Lohardugga ...	Ranchi ...	28.14	22.44	17.51	
Sarun ...	18.96	17.76	20.87	Sonthal Pergunnahs ...	Deoghur ...	28.10	13.99	21.73	
Mymensing ...	18.28	19.90	16.15	Pubna ...	Pubna ...	28.09	29.47	32.16	32
24-Pergunnahs ...	18.74	23.47	20.68	Sinkbhum ...	Chyhasa ...	27.97	50.44	26.80	2
Sonthal Pergunnahs ...	17.71	13.46	15.35	Khulna ...	Khulna ...	27.81	23.30	22.23	4
Durbhanga ...	17.64	16.15	14.38	Patna ...	Barh ...	27.57	19.77	28.92	
Chumprun ...	16.82	25.98	22.47	Bankura ...	Bankura ...	27.10	15.73	21.73	44
Mozufferpore ...	16.78	15.24	14.35	Mozufferpore ...	Lalganj ...	25.08	18.41	21.88	9
				Bhagulpore ...	Bhagulpore ...	25.48	27.84	37.97	14
				Shahabad ...	Buxar ...	24.67	13.64	18.16	8
				Murshedabad ...	Berhampore ...	24.48	21.60	27.19	19
				Sarun ...	Sewan ...	24.17	34.94	34.16	4
				Tipperah ...	Comillah ...	24.06	29.69	25.39	3
				Murshedabad ...	Brahmanberia ...	23.92	26.44	28.10	6
				Midnapore ...	Jungipore ...	22.97	25.13	27.58	
				Howrah ...	Chundrakona ...	22.76	22.50	22.10	46
				Backerganj ...	Howrah ...	22.71	21.68	23.45	
				Howrah ...	Barisal ...	22.44	16.83	20.47	53
				Burdwan ...	Bali ...	22.40	20.58	20.85	
				Dacca ...	Culina ...	22.10	17.98	24.21	11
				Sarun ...	Dacca ...	21.76	17.00	23.98	16
				Midnapore ...	Chupra ...	21.59	13.80	16.56	1
				Nudda ...	Midnapore ...	21.51	20.35	23.65	14
				Serampore ...	Kustia ...	21.30	12.14	16.98	16
				Mymensing ...	Baidyabatti ...	21.13	15.35	15.01	12
				Mozufferpore ...	Jamulpore ...	21.00	20.50	23.41	6
				Birbhum ...	Mozufferpore ...	20.82	15.74	22.36	1
				Mozufferpore ...	Soory ...	20.64	18.86	21.91	1
				Hughli ...	Hajipore ...	20.47	15.60	16.25	25
				Cuttack ...	Jehanabad ...	20.36	7.89	11.04	20
				Midnapore ...	Cuttack ...	20.02	10.25	17.06	24
				Bankura ...	Ramjibanpore ...	19.98	15.76	15.85	
				Bogra ...	Sonamkhil ...	19.49	7.64	26.85	
				Faridpore ...	Bogra ...	19.09	13.10	22.65	4
				Murshedabad ...	Faridpore ...	19.00	8.86	21.33	27
				Pubna ...	Kandi ...	18.94	19.69	19.41	
				Midnapore ...	Seraganj ...	18.55	15.35	24.46	78
				Noakhali ...	Ghatil ...	17.96	17.17	16.69	7
				Khulna ...	Sudharam ...	17.75	8.39	13.07	5
				Patna ...	Satkhira ...	16.93	19.45	19.11	
				Shahabad ...	Behar ...	16.74	21.90	26.05	
				Nudda ...	Arrah ...	16.68	21.60	16.77	7
				Bankura ...	Kishnagar ...	16.37	14.94	23.54	3
				Patna ...	Bishenpore ...	16.16	11.32	20.14	
				Chittagong ...	Patna ...	15.98	21.09	22.62	
				24-Pergunnahs ...	Dinapore ...	15.77	12.29	12.38	
				Nudda ...	Chittagong ...	15.69	18.70	21.78	20
				24-Pergunnahs ...	Mazioktolla ...	14.59	Newly created.		
					Bassirhat ...	14.38	12.14	17.01	3
					Nobodip ...	13.68	10.68	20.70	
					Meherpore ...	12.21	26.34	22.68	2
					Santipore ...	11.75	9.46	13.50	9
					South suburban ...	11.20	12.79	14.75	3
					Banaghat ...	10.94	6.67	11.40	3
					Kishoreganj ...	10.83	8.45	17.50	
					Baduria ...	8.67	10.58	11.83	3
					Tangail ...	8.35	9.26	16.98	

15. A pleasing feature in the registration of deaths in Bengal during

Amount of interest taken by District Officers and Municipal Commissioners in Registration.

1889 is the marked improvement effected both in districts and in towns—a fact which shows that the responsible officers are now taking greater personal interest in the matter. The circular

issued by Government in 1888, drawing the attention of all local officers, and especially of Municipal Commissioners, to the necessity of improving the registration of vital statistics, has had the desired effect of stimulating the energies of the authorities for whom it was intended; and although in some districts and towns near the bottom of the list it is evident that registration is still neglected, there is every reason to be satisfied with the progress made during the year under review in the Province taken as a whole. In 28 out of the 45 districts there was an improvement in registration in 1889, as compared with 1888 and the average of the five years 1884—88. The improvement was most marked in the districts of Poori, Bâlasore, Noakhali, Purneah, Cuttack, and Serampore. According to the reports of the local officers the health of these districts during 1889 was decidedly bad, and worse than in the past few years. The recorded mortality bears out the opinions of the local authorities. In towns there was an improvement in registration in 70 out of the 94 mentioned in the list. Last year there was a deterioration in 59 out of the 93 towns mentioned in that Report. In 1889, six out of the 94 towns returned birth-rates of over 40 per mille, 23 between 30 and 40, 39 between 20 and 30, and 26 below 20 per mille. In 1888, eight towns returned death-rates of over 40, 11 between 30 and 40, 33 between 20 and 30, and 41 below 20 per mille. Last year I had occasion to bring to the notice of Government the palpable inaccuracy of the figures returned from the following municipalities:—South Suburban, Dinapore, Kustia, Bissenpore, Nobodip, Baduria, Santipore, Tangail, Faridpore, Kishoreganj, Sudharam, Jehanabad, Sonamukhi, and Ranaghat. This year it is my pleasing duty to report an improvement in registration in all these municipalities except South Suburban, Baduria, and Tangail, where I regret to say registration was even worse in 1889 than it was in 1888—a fact which reflects discredit on the Municipal Commissioners of those towns.

With the approval of Government, I issued a circular in October 1889 to all municipalities, drawing their attention to the many useful purposes which the registration of vital statistics fulfils, and the necessity for the collection and preservation of complete and accurate records relating to births and deaths. The circular, of which a copy is appended to this Report (see Appendix VI), is having a good effect. There are already signs of marked improvement in registration as evidenced by the statements published by this office weekly and monthly in the *Calcutta Gazette*. In future there is also to be a quarterly review of the vital statistics of the principal towns which is likely to be very useful, and to result in a still further improvement of registration.

Comparison between vital statistics of mofussil towns with those of Calcutta.

	Ratio per 1,000 of population—	
	In Calcutta.	In Bengal
Births ...	20.19	22.76
All causes ...	26.96	25.03
Cholera ...	2.49	3.61
Small-pox ...	.16	.29
Fevers ...	7.71	10.84
Bowel-complaints ...	3.07	3.05
Injury ...	.62	.52
Other causes ...	13.00	6.70

placed on the figures of Bengal towns.

Mortality of natives in Cantonments.

17. The following statement shows the mortality among natives in the nine cantonments in Bengal:—

NAMES OF CANTONMENTS.	Average population.		RATIO OF DEATHS PER 1,000 OF POPULATION.												INCREASE OR DECREASE AS COMPARED WITH 1898.									
			Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injury.	Other causes.	Total.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injury.	Other causes.	Total.								
	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.	1898.	1899.								
Port William	3,007	2,177	.95	1.83	...	...	5.58	9.54	.95	1.27	...	...	4.23	.91	14.78	13.78	.88D	...	1.06D	.42D	...	3.38I	1.00I
Alipore	908	1,044	2.06	.95	...	...	5.15	1.91	3.28	14.96	...	...	11.36	11.49	26.85	23.78	1.11I	...	3.26I	6.16D	...	.13D	1.88D
Dum-Dum	4,223	4,233	1.89	3.00	9.47	5.20	3.07	.25	1.12	1.05	3.36	16.16	11.60	.71D	...	4.27I	5.84I	...	1.18D	7.11D
Barakpore	4,981	5,089	...	.90	.90	.19	7.28	11.06	4.21	3.91	.90	...	2.90	1.88	13.85	17.88	.69D	.09I	4.06D	1.24I	...	.01I	3.11D
Larjiling	233	233	...	...	...	...	25.78	4.23	...	4.29	...	...	...	...	5.58	25.75	17.16	...	31.46I	4.39D	...	8.58D	3.69I
Busa	541	638	...	...	...	...	3.09	6.26	3.09	1.26	...	...	1.26	9.24	30.97	16.63	20.37	...	3.87D	3.13I	1.56D	1.73D	3.74D
Dorunda	2,165	2,237	1.38	24.34	...	...	30.25	28.25	6.00	3.55	1.35	1.24	5.54	1.79	40.64	59.27	23.86D	...	1.90D	3.41I	.04I	3.75I	18.63D
Dinapore	14,165	14,168	1.13	3.17	.25	.25	12.70	9.75	2.11	1.36	.48	.48	5.51	3.60	23.24	18.44	1.04D	.85I	3.95I	.63I	Equal	1.91I	4.30I	
Cuttack	4,473	4,405	1.56	2.23	2.46	...	3.86	3.05	...	.23	.23	...	10.73	12.09	10.34	18.14	.67D	2.45I	1.75I	.24I	.22I	1.80D	2.29I
TOTAL	33,636	34,199	1.12	3.74	.80	.09	11.31	9.56	3.68	1.98	.86	.53	5.45	4.35	1.46	30.17	2.63D	.48I	1.75I	.76I	.14D	1.05I	1.28I	

It will be seen that the total mortality was 1·28 more in 1889 than in 1888, the increase being chiefly under the head "Fevers." The fluctuation in the rates of the different cantonments is again most striking. The rate was highest in Dorunda (40·64) and lowest in Fort William (14·78). In 1888 it was highest in Dorunda (59·27) and lowest in Dum-Dum (11·60). It is not understood why the death-rate in the Dorunda cantonment, which is situated in a healthy climate, should be so much higher than the death-rate in the cantonments at Fort William, Dum-Dum, Barrackpore, and Buxa, which are situated in less healthy localities. The medical officer in charge of the Dorunda cantonment, reporting on the subject, says:—

"The entire mortality is high, especially that attributed to fever. The deaths reported undoubtedly occurred, but the population of the cantonment is, in my opinion, greatly understated. I have had an enumeration made of the inhabitants with the result of increasing the number to 2,787, which I consider as near as possible correct. The troops with families and followers alone amounted to 709 on the 1st January 1890. This would reduce the mortality rate to 31·57 per 1,000. As regards the causes of death, I have enquired into every one recorded, and have visited the houses in which many occurred. Bazartolla with a population of 397 shows 19 deaths, a rate of 47·85 per 1,000. Here I had the house pointed out where each fatality occurred. Some of these deaths were not of *bonâ fide* residents, and there are others which I have much doubt about, specially of infants. Though the number of deaths from fever has been overstated, there still will have been an excessive proportion, but I cannot attribute this to defective drainage. The houses of the non-military residents of cantonments are situated on generally sloping ground near a river-bed with numerous small ravines running into it, which rapidly carry off surface water. In the military lines fever cases produced only a small minority of the deaths. The reported cases are pretty generally scattered throughout the other different tollas, which are in some cases quite separated from each other, and in other instances semi-detached. There is one point between some of the tollas where water does get locked up, but I cannot see that people residing in its neighbourhood suffered more from fever than those in more distant quarters. I have invited the attention of the Station Staff Officer to this spot with a view to improving its drainage."

It is satisfactory to notice that there was a decrease of deaths from cholera during 1889 in all nine cantonments except Alipore, but fever unfortunately was accountable for more deaths in 1889 than in 1888 in five out of the nine cantonments, the largest increase being in the Darjiling convalescent cantonment. The high death-rate in Darjiling is not due to the climate or to bad drainage, but most probably to acts of imprudence on the part of the convalescent arrivals from the plains.

18. The number of European seamen who arrived in the Port of Calcutta fell from 22,705 in 1888 to 20,662 during the year 1889. The daily average population was, however, 1,626, against 1,510 in the previous year. Including deaths out of hospital, the death-rates per mille of the last five years stand as follows:—

				Cholera.	Other causes.	Total.
1885	...	...	...	4·72	25·99	30·71
1886	...	...	...	11·61	33·53	45·14
1887	...	...	...	10·03	16·91	26·94
1888	...	...	...	10·59	27·15	37·74
1889	...	...	...	11·07	20·29	31·36

The total number of casualties among European seamen from all causes was 51, against 57 in 1888.

It is worthy of note that there were no admissions from small-pox, nor were there any from scurvy, during the year under report.

The average native floating population of the port is estimated at 25,630, and the death-rates are calculated on that basis. The number of deaths reported during the year was 129, or 5·03 per mille of the population, as compared with 148, or 5·77 per mille, in the previous year. From the foregoing figures it would appear that both the European and native populations of the river enjoyed better health during the year under report than in 1888.

19. It appears from the statistical returns received in this office that the health of the Province, as a whole, was not so good during 1889 as in the preceding

General health of the Province.

year, but in the opinion of the local medical officers 1889 was not on the whole a more unhealthy year than its predecessor. The increase of mortality shown by the figures may therefore be ascribed to better registration. The districts in which according to the figures the public health was worse in 1889 than in 1888 are shown in the margin. This agrees with the opinions of the local medical officers, except in the cases of Bankura, Howrah, Jessore, Dacca, Tipperah, Mozufferpore, and Sarun, where in the opinion of the medical officers in charge the public health was not worse during the year under review than in the previous year. The outturn of crops was below the average in 18 out of 44 districts, in which the price of food-grain was consequently higher than the average.

Burdwan.	Noakhali.
Bankura.	Tipperah.
Birbhum.	Patna.
Hughli.	Shahabad.
Serampore.	Mozufferpore.
• Howrah.	Durbhanga.
Jessore.	Sarun.
Murshedabad.	Monghyr.
Julpaiguri.	Bhagulpore.
Dacca.	Purneah.
Faridpore.	Sonthal Pergunnahs.
Backerganj.	Cuttack.
Chittagong.	Poori.
Balasore.	

SECTION VI.

HISTORY OF THE CHIEF DISEASES.

CHOLERA.

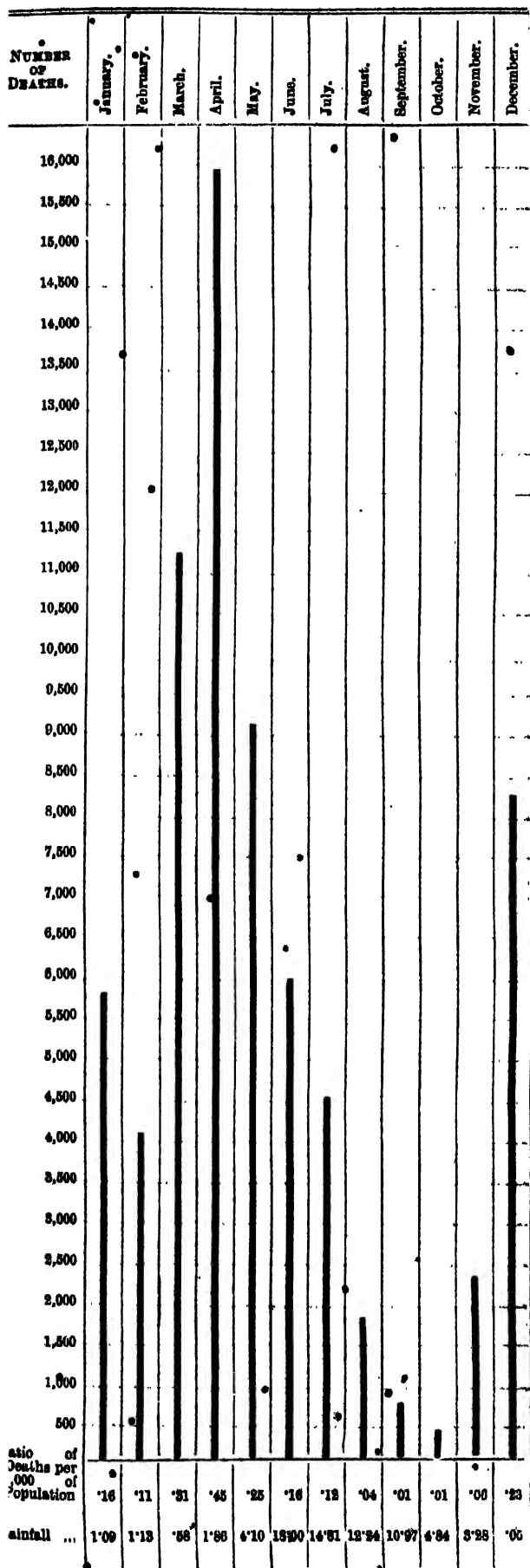
20. During the year under review, 171,103 deaths were registered in the Province from cholera, of which 92,027 occurred among males and 79,076 among females. These figures represent mortality rates of 2·59 (or 2·29 if the present population of Bengal be estimated at 74,482,274 as explained in paragraph 2 of this Report), 2·81, and 2·38 respectively per 1,000 of the population. In the previous year the mortality from cholera amounted to 111,391, or 1·68 per mille. The average of the five years 1884—88 was 139,942, or 2·12 per mille, and that of the decade 1877—88 was 122,769, or 1·91 per mille. The cholera of the year under review was thus more severe than that of the past periods with which it is compared. It was also more widespread than in 1888. The disease was present in every district, but, contrary to previous experience, affected rural more than urban circles in proportion to population. It prevailed epidemically in 96 registering circles, against 60 in 1888, severely in 68, against 75, with slight severity in 467, against 488, and was absent from 14, against 20 in the previous year. The number of villages attacked in 1889 was 26,548, against 19,386 in 1888, giving percentages of 11·82 in 1889 and 8·29 in 1888.

21. In obedience to the orders of the Government of India, I have had prepared and attached to this Report as Appendix II the prescribed map and its attendant statement, illustrating the distribution of the mortality from cholera in the different registering circles during 1889, but I would again urge that no useful purpose is served by the publication of such a cumbersome map and statement, which ~~is~~ not, I believe, even looked at by the majority of the readers of this Report; and the preparation of which only entails unnecessary additional labour both in my office and in that of the Surveyor-General, where the map is lithographed. This is not my individual opinion only, but also that of my two experienced predecessors who condemned the map and thought, as I think, that diagrams and small coloured maps, such as those incorporated in the body of this Report, might with advantage take its place. The diagrams and small maps are much more interesting and contain sufficient information for all likely practical purposes.

22. The diagram facing this page illustrates the mortality from cholera in Bengal during 1889 and the seasonal incidence of the disease for the last 16 years. It will be seen that the year compares unfavourably with twelve out of the sixteen years with which it is compared, being surpassed in the total number of deaths recorded by only four years, viz., 1887, 1885, 1882, and 1876. As usual, the Province was comparatively free from cholera during the earlier months of the year. The disease prevailed with much severity in the hot weather before the rains set in, especially in the month of April, which was unusually hot and dry, the temperature, according to the published reports of the Meteorological Department, being abnormally high throughout the Province in that month; the excess over normal in some districts being as much as 8 degrees. In no other year has the number of cholera deaths in April exceeded the mortality of that month in 1889. Concurrent with the breaking of the rains, which were late in coming, the disease began to subside appreciably, and in October the mortality had fallen from the maximum of 33,003 which it reached in the month of April to a little over 5,000. In November there was a slight rise, which continued in December, the total mortality in that month being 10,181.

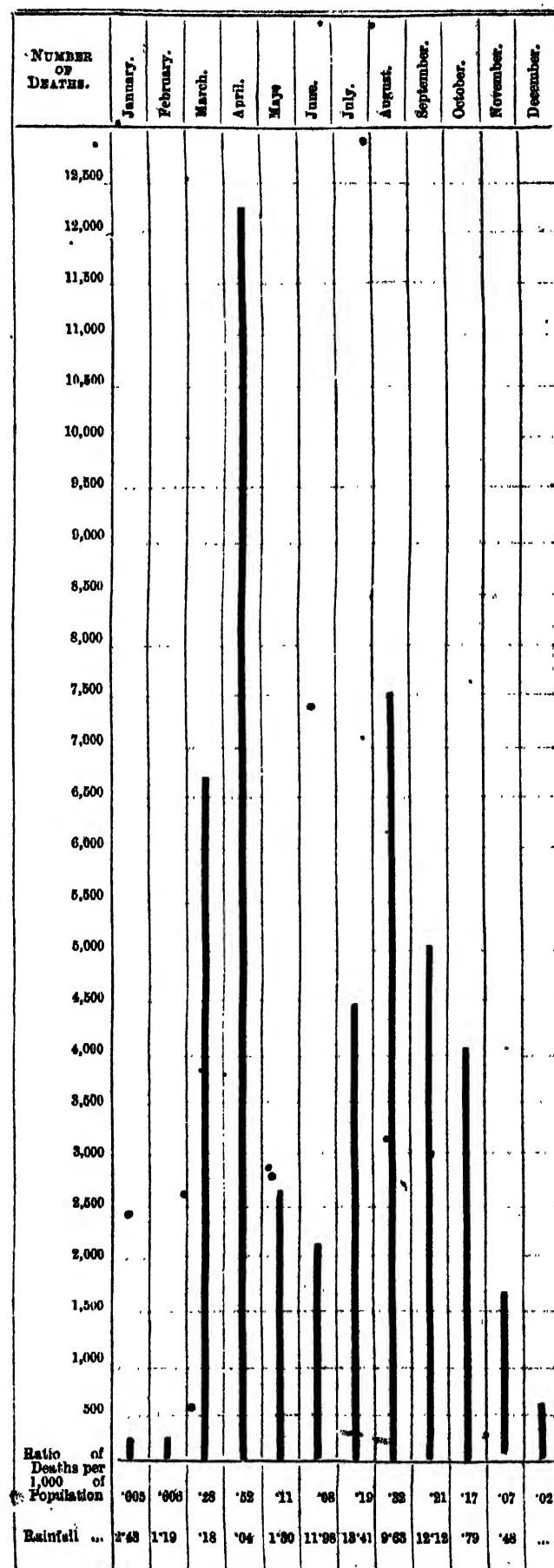
23. The seasonal incidence of cholera in each of the four great divisions of which the Province is composed, viz., Bengal, Behar, Chota Nagpore, and Orissa, differs, as was explained in last year's Report, from the seasonal incidence of the disease in the Province taken as a whole, and seems to be influenced in a great measure by the character of the soil. The seasonal incidence of the disease during 1889 in each of the four divisions is illustrated in the diagrams which follow the provincial diagram. A map illustrating the character of the soil of Bengal and another showing the rainfall during 1889 are also attached.

Diagram showing the Seasonal Incidence of Cholera in Bengal Proper (Burdwan, Presidency, Rajshahye, Dacca, and Chittagong Divisions) during 1889.



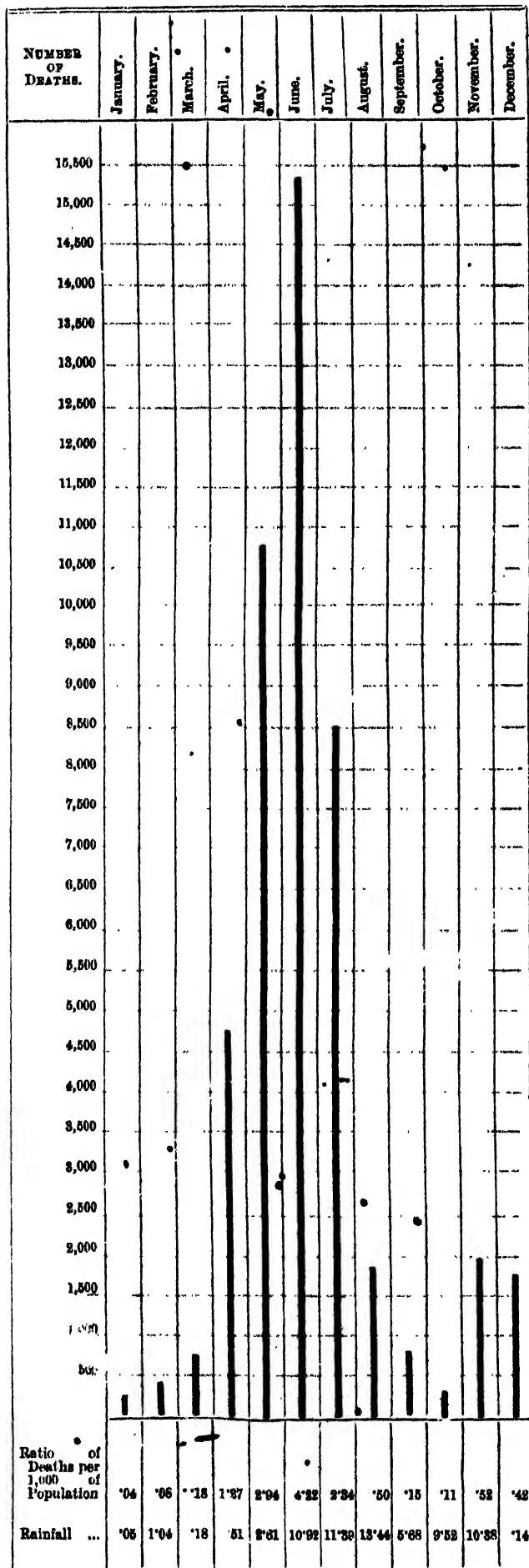
The total mortality in Bengal Proper was 1.29 per 1,000 of population and total rainfall 72.96 inches.

Diagram showing the Seasonal Incidence of Cholera in Behar (Bhagulpore and Patna Divisions) during the year 1889.



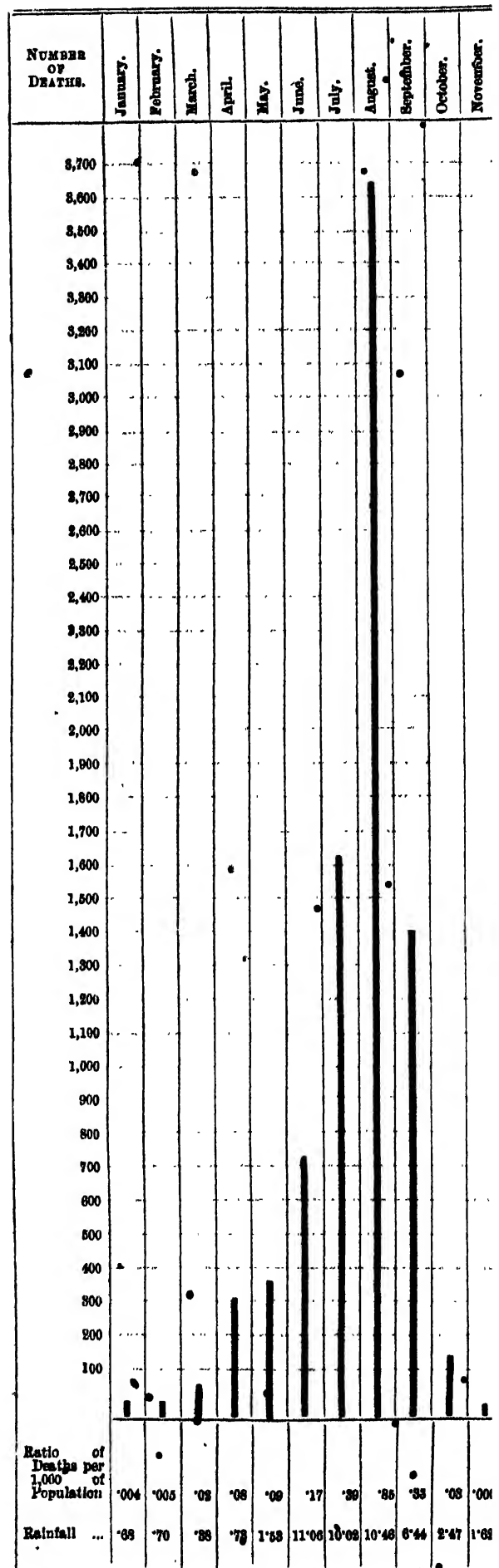
The total mortality in Behar was 2.01 per 1,000 of population and the total rainfall 68.35 inches.

Diagram showing the Seasonal Incidence of Cholera in Orissa Division during the year 1889.



The total mortality in Orissa was 12'62 per 1,000 of population and the total rainfall 65'96 inches.

Diagram showing the Seasonal Incidence of Cholera in Chota Nagpore Division during the year 1889.



The total mortality in Chota Nagpore was 1'99 per 1,000 of population and the total rainfall 46'09 inches.

Map of the
LOWER PROVINCES
 OF
BENGAL
 ILLUSTRATING THE
 CHARACTER OF THE SOIL
 PREPARED FROM MEDICOTT & BLANFORD'S
 GEOLOGY OF INDIA.

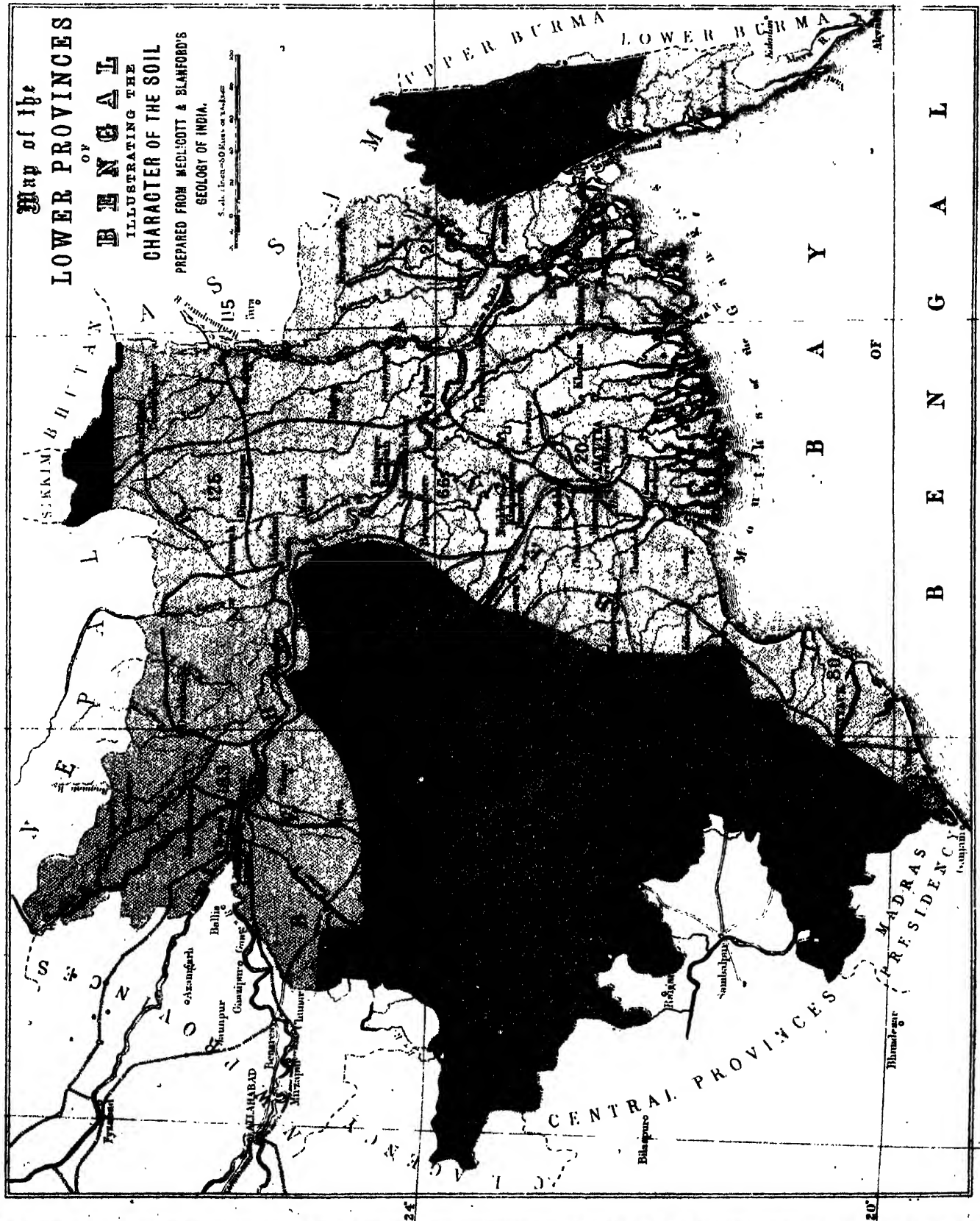
Scale 1 inch = 50 Miles or 80 Kilometres

REFERENCES.

Alluvial soil tinted thus

Older formation tinted thus

The figures in the map represent the elevation
 of land above mean sea level.



B E N G A L

90°

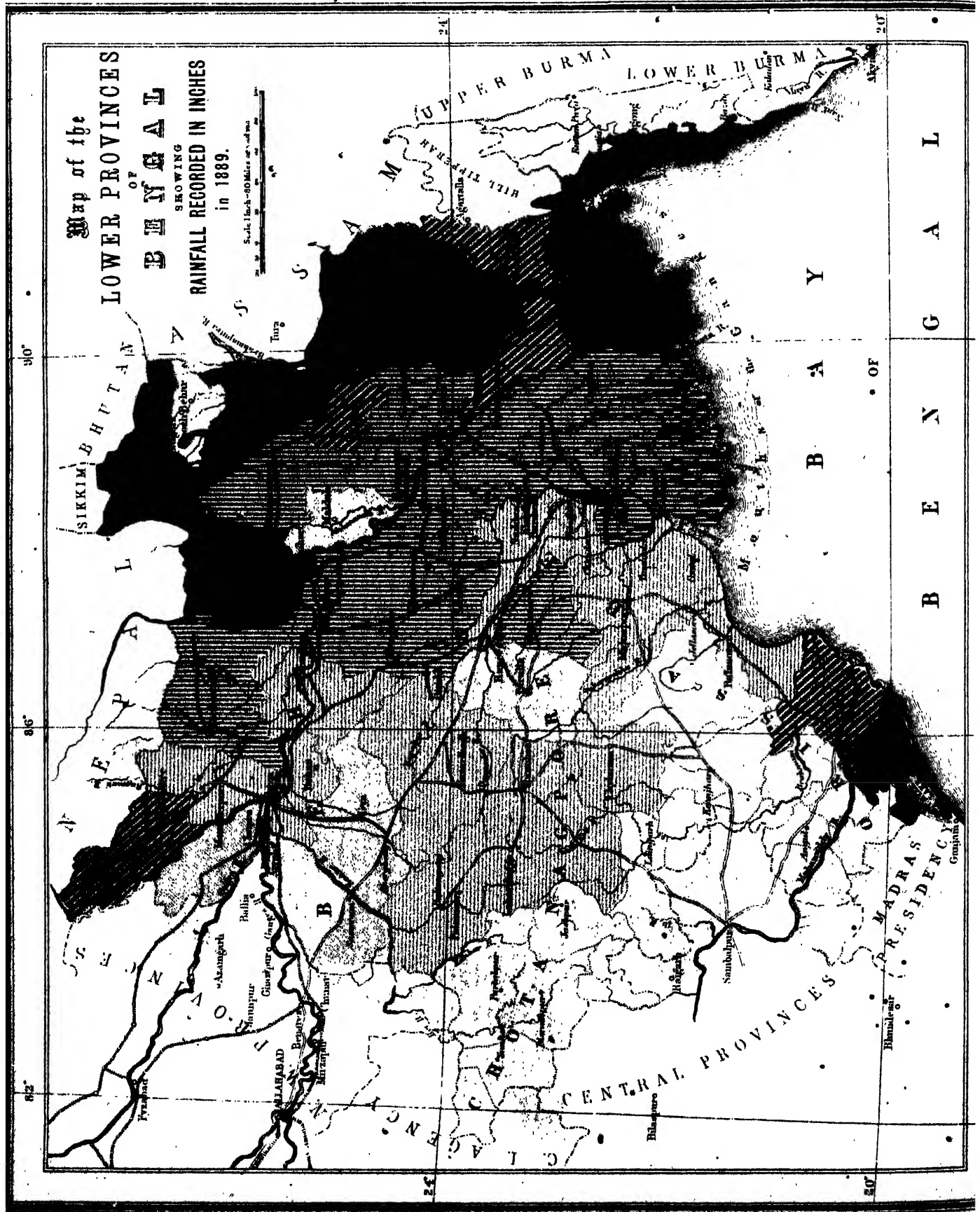
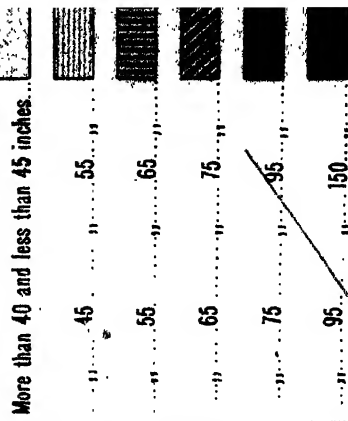
88°

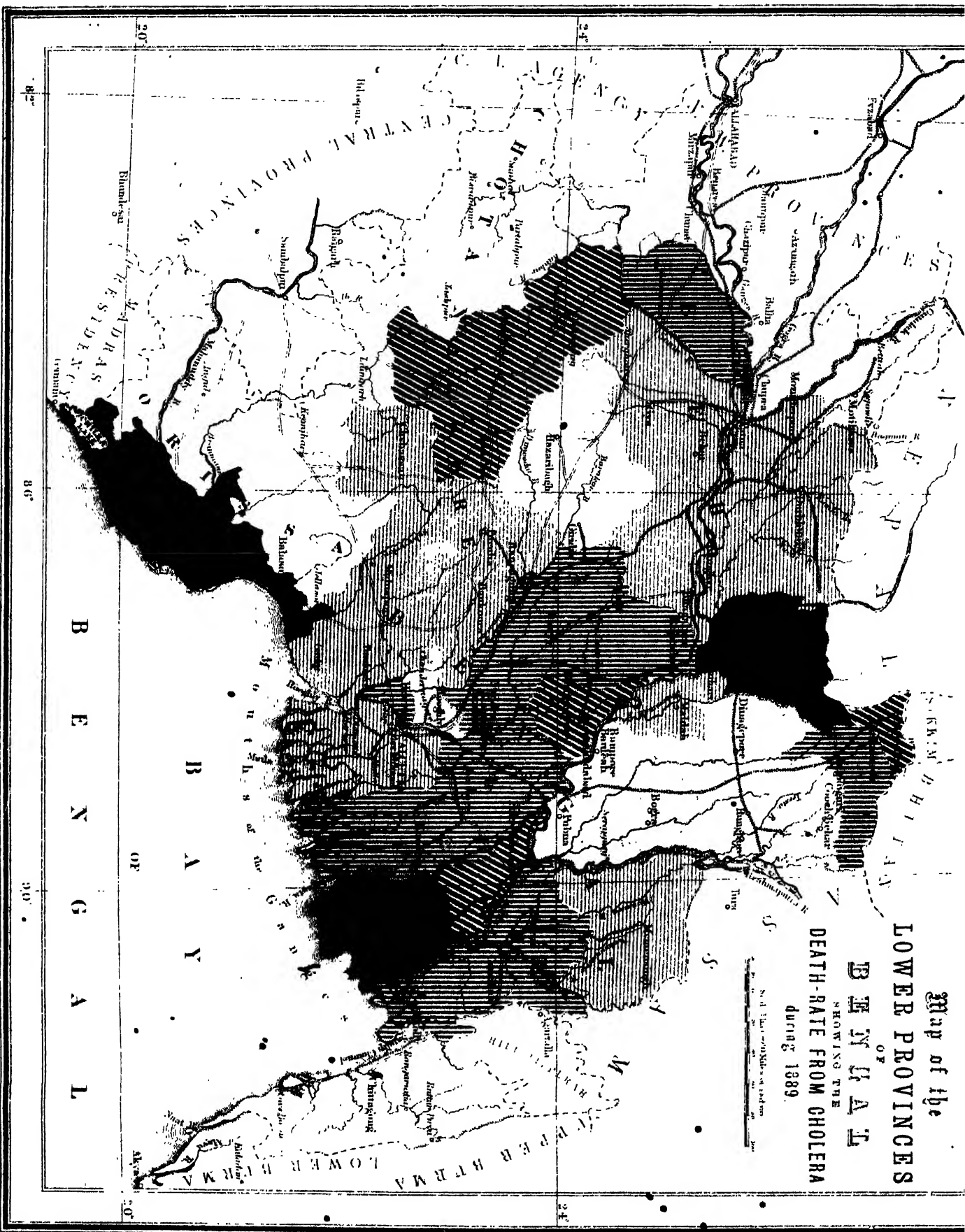
86°

Map of the
LOWER PROVINCES
OF
BENGAL
SHOWING
RAINFALL RECORDED IN INCHES
in 1889.

Scale 1 inch = 60 Miles

REFERENCES.





REFERENCES.

Districts in which the rate of deaths from Cholera per 1,000 of the population ranged —

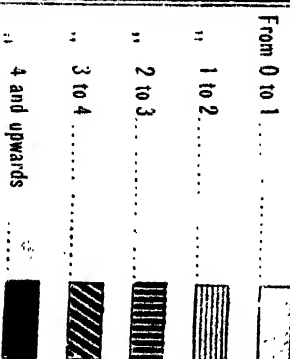
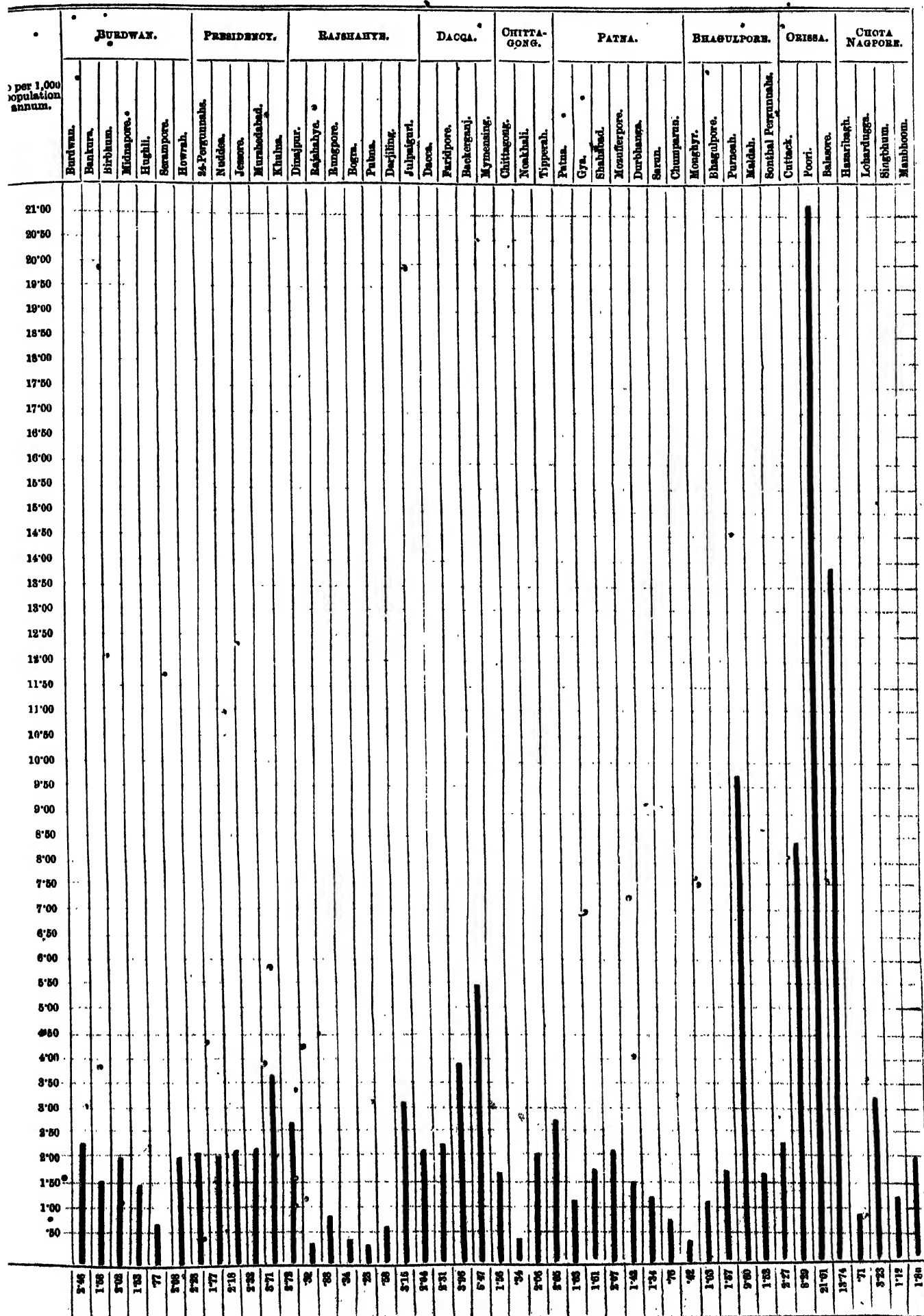


Diagram and map showing the
Prevalence of Cholera in 1889 in
each district of the Province.

24. The following diagram and the shaded map on the opposite
page show the incidence of cholera mortality in each district of the
Province during 1889:—



25. It will be seen that the districts in which cholera was most prevalent during the year under report were Poori, Balasore, Purneah, and Cuttack, where the rates of mortality were 21.01, 12.74, 9.60, and 8.29 respectively. The districts which suffered least were Bogra, Dinajpur, Chittagong, and Chumparun, where the rates of mortality were 23, 32, 34, and 42 respectively. Last year Chumparun, Backerganj, and the 24-Pergunnahs suffered most, and Dinajpur, Birbhum, and Darjiling least. The diminution during the year under report in the cholera mortality of Chumparun, and the large increase in Purneah and in all the districts of the Orissa Division, especially Poori, are the most noticeable features in the cholera history of the year under review.

The very large number of deaths from cholera which have occurred during the last few years in Chumparun has been attributed, and I think rightly, chiefly to the overcrowding of the cultivators who assemble in April for the opium weighments at Motihari, where the sanitary arrangements were defective and the water-supply impure. Some valuable suggestions were made in 1888 by Dr. R. D. Murray, the late Civil Surgeon, for improving matters in this respect, and under the orders of Government the Board of Revenue have already had many of the recommendations carried out with the happy result that the cholera mortality of Chumparun fell from 11,414, or 6.62 per mille, in 1883 to 740, or 4.2 per mille, in 1889. The present Civil Surgeon of Chumparun, Dr. Boville, thinks, however, that it can hardly be said yet that the precautions taken in 1889 prevented a cholera epidemic, for in previous years equally good results have been attained without them. The rainfall, he thinks, has a good deal to do with epidemic outbreaks of cholera in Chumparun. He says:—

“There are some grounds for thinking that rain in April is connected with epidemic cholera appearing in the early part of the year, because in 1888 and 1887, when there was an unusual rainfall in April, it broke out severely in June and May respectively; while in 1885, which was also a cholera year, there was only a slight shower (0.02 inches) in April, and the disease did not manifest itself severely until August and September. The gathering of opium cultivators at the weighments cannot therefore be held in itself sufficient to originate cholera, because they collect every year at the godowns under very similar circumstances (except the rainfall), while epidemic cholera only occurs occasionally.”

As an additional precaution, however, to those recommended by Dr. R. D. Murray (see last year's Sanitary Report, pages 12 and 13), Dr. Boville recommends that every possible endeavour should be made on the part of the Opium Department to diminish the number of opium cultivators present and to shorten their stay at the godown. It appears that under the present system some cultivators have to remain five or six days about the godown, while it would perhaps be possible under a change of system to limit their stay to 48 hours. Dr. Boville's proposal is worthy of consideration, and should, if possible, be carried out.

The death-rate from cholera in the Purneah district rose from 47 per mille in 1886 to 9.60 during the year under report. The epidemic was the severest known for years, and prevailed with great intensity from March to May, carrying off over 17,000 persons during those months. The Purneah district is within the endemic area, and is a notorious district for cholera prevalence. It is one of those districts in which cholera is known to have existed prior to the historic epidemic of 1817. The epidemic of 1889 is supposed to have originated at the Karagola fair, which is held on the banks of the Ganges from about the 11th February to about the middle of the month. The disease was most severe in the centre, west and north-west of the district, where it is estimated that one man in 70 died of it. The attendance at the Karagola fair on the three most important days was estimated at 400,000 souls, and the total number of persons who attended the fair is said to have been over a lakh. There was no outbreak of the disease in the fair itself, but as the gathering began to disperse, cases of preliminary diarrhoea, if not actually of cholera, are said to have occurred on the roads leading from the fair, especially on the Ganges and Darjiling road, and from this road the Civil Medical Officer was of opinion that the disease was conveyed in the first instance by human agency to places near or remote that were quite unaffected previously. There can be little doubt that overcrowding at the *mela*, fatigue, indiscriminate use of food (for the most part uncooked), free use of decaying vegetables and fruits, &c., and inadequate sanitary

precautions were the causes of the outbreak. This year (1890) better sanitary arrangements appear to have been made at the fair, and up to date I have heard of no epidemic outbreak of cholera in Purneah. The insufficiency and impurity of the water-supply along the principal roads and communications in the district of Purneah is undoubtedly a prolific source of cholera in that and other districts approached through Purneah. I have already drawn attention to this matter in a special report lately submitted to Government on the cause of cholera in the Julpaiguri Doars and Darjiling Terai. Until the water-supply of the Province is improved, and adequate sanitary arrangements made at fairs and other places, where large numbers of people assemble, I am afraid there will be little or no diminution of the death-rate from cholera in Bengal.

The largest number of deaths from cholera in the whole Province occurred in Poori, where the mortality from this cause rose from 2,129, or 2·39 per mille, in 1888 to 18,669, or 21·01, in 1889. The history and cause of the disease ^{are} best described in the words of Dr. Walsh, the Civil Surgeon of Poori, who has written an admirable report on the subject. Dr. Walsh says:—

“The increase of cases from February to March coincides with the arrival of 20,000 pilgrims for the Dol Jatra. These people are tired, and, as regards health, below par; probably also one or two of them are already suffering from the premonitory stage of cholera when they enter the town. While in Poori they eat hardly anything but the *mahaprosad* rice prepared in the temple and the half-ripe fruit and vegetables which are exposed for sale in the streets. The *mahaprosad* is often sold to them after it has been kept for days. It is then in a fermented condition, unwholesome and liable to bring on diarrhoea, the general precursor of cholera. The tanks also in the town of Poori are all extremely holy and extremely filthy. It is the duty of every pilgrim to drink out of all these sacred tanks, and it is the custom of many of them to defile the tanks either with faeces or urine before they drink. The cholera poison is thus easily spread among a large number of people in a poor state of health, and very susceptible to the attacks of any infectious disease. The permanent inhabitants of the town draw their drinking-water as a rule from public or private wells, and do not suffer much from cholera. January, February, August, September, and October give a total number of nine deaths only. These are the months during which only very few pilgrims visit Poori. In short, the chief causes of cholera in Poori are fatigue after long journeys, unsuitable or unwholesome food (both these predisposing causes prepare the subject and render him susceptible to the action of the cholera poison), and active cholera germs communicated by tank water. If the *pandais* were only amenable to the elementary forms of reason, or if the Municipal Commissioners would display a little more firmness and desire to improve the health of their fellow-townpeople, much might be done to reduce this source of danger. A mandate in the name of Jagarnath would stop the people from drinking indiscriminately from all the tanks, and one tank might be set apart and used only for drinking purposes. For a time the Municipality, acting on my advice, forbade bathing in a certain selected tank, but they did not remain firm, and gave way to popular opinion which seemed to be in favour of making this tank as dirty as all the rest. Until the people learn or are forcibly taught (by means of section 277 of the Indian Penal Code) that water used for drinking purposes must not be defiled, so long will it be impossible to check the prevalence of cholera during the religious festivals in Poori.”

Regarding an epidemic outbreak of cholera in a village situated in the port of Poori, Dr. Walsh says:—

“I cannot with certainty give the origin of this outbreak, but will offer one or two suggestions. The well may have been polluted, but as all the people of the village drink from it and only the minority were attacked, perhaps the water was not to blame. The well was, however, closed for a time. I think the cause lay more probably in some of the food eaten by the Nuliahs. They are in the habit of spreading fish on the ground to dry, and the ground on which the fish is laid out is often very dirty, being close to the village. It may be that some of the cholera poison stuck to some of this ill-smelling dried fish.”

26. Almost every district medical officer appears to have paid much

Etiology of Cholera and extracts from Civil Surgeons' reports on the subject.

attention to cholera. In many cases at great personal inconvenience and risk to themselves they visited the places where it prevailed most severely, and advised the local authorities as to the best means of preventing its spread. Their reports do not, however, cast any new light on the etiology of the disease. The well-known predisposing causes, viz., polluted water, local insanitary conditions, imperfect drainage, errors of diet, and importation, are indicated as exciting and favouring, if not absolutely of originating, this disease; but as usual the evidence is in the main confirmatory of the view that outbreaks of cholera are traceable to pollution of drinking-water, and this is clearly shown in the special report I submitted to Government during the year on the severe

outbreak of cholera in the Darjiling hills. A copy of that report will be found in Appendix IV of this Report. It would take up too much space were I to reproduce what each Civil Surgeon has to say about cholera, but the following extracts from some of the best reports on the subject may be of interest to Government and the public.

Extracts from some of the most interesting reports regarding the cause and prevalence of Cholera.

Dr. R. L. Dutt, Civil Surgeon of Midnapore, says:—

"All the places forming the routes of pilgrimage to Juggernath, such as Garbeta, Naraingurh in sudder, and Tamlook in the Tamlook subdivision, suffered more from cholera than other places as in the preceding year."

Dr. Barker, Civil Surgeon of Serampore, in which place cholera usually prevails with great severity, writes as follows:—

"Cholera was prevalent throughout the year, and though spread over a wide area did not assume an epidemic form until the beginning of November. The disease may be said to be endemic in this district. I have reason to believe that symptoms similar to cholera, that is, vomiting and purging, but in reality indigestion, or more correctly poisoning, are often the result of eating unwholesome food, particularly fish in a state of decomposition. The people from the North-Western Provinces, of whom there are many (over ten thousand) here working in the jute mills, are particularly liable to this form of indigestion, and the disease is called 'cholera' by the quacks and treated with astringents, and many cases consequently terminate fatally, and are treated in the death register under the head of cholera * * * I have again to note that the Mohesh and Rishra cooly bustees have been comparatively free from cholera. Only two cases in the first and nine in the last-named locality were registered during the year. I repeat I consider the comparative immunity these bustees have enjoyed from this fell disease during the past four years is mainly attributable to the good water supplied to the coolies by the Managers of the Hastings and Wellington Jute Mills aided by the improved sanitation of the bustees."

Dr. Edwards, the Civil Surgeon of Nuddea, in writing of the increase of cholera mortality in Nuddea in 1889 as compared with 1888, says:—

"This I think may be accounted for by the rainfall (which was less in 1889 than in 1888), and so it will continue to be as long as the inhabitants of the district are as careless of their water-supply as they are at present. It is worthy of note that this year the urban population suffered much less than the rural from this disease, the opposite being the case in the two previous years."

And, again, in another paragraph of his report, Dr. Edwards says:—

"The small rainfall will, I think, account for the increase of cholera. It always seems to be the case, and this year is no exception."

Dr. K. D. Ghose, Civil Surgeon of Khulna, makes the following remarks regarding the prevalence of cholera in that district:—

"While this disease prevails epidemically in certain spots, it has a curious seasonal prevalence which I have marked year after year in this district. It has two seasons of extreme prevalence, viz., in December and January, and again in March and April. These two seasons of extreme prevalence would have been a continuous one if it were not for a distinct and invariable lull in February."

Dr. E. G. Russell, writing of cholera in the Rajshahye district, which was less severe in 1889 than in 1888, says:—

"In 1888 cholera broke out among the pilgrims at the Khetoor *mela* (14 miles west of Rampore Bauleah) during the last days of October, and spread in an epidemic form along the lines of their returning routes. In 1889 good sanitary and precautionary arrangements were made, and no cholera occurred among the pilgrims at the fair, and none along the line of their return march. The lines of march were laid down and insisted on, the camping site was cleaned, jungle cleared, trees lopped, certain tanks set aside (under police guard) for drinking purposes, and certain others for bathing, latrines were constructed, and a staff of sweepers entertained."

Dr. W. F. Murray of Chittagong makes the following remarks with regard to cholera in the town of Chittagong, which was the cause of 11 deaths in the jail:—

"It would appear, as far as can be ascertained, that it was brought down by some imported coolies from Rangamati. These coolies were living on the banks of the

tank at Ricket's Ghat, and there three of them died of cholera. It has been averred, and it is not unreasonable to believe, that the clothes of these coolies were washed in the tank which supplies with water for culinary purposes the Ander ki-la part of the town, and which for some time past has also supplied the jail. The chief measure adopted to check the disease, and which has been successful, was to guard the water of the tank from pollution and to reserve it for drinking only."

Dr. Macrae, the Civil Surgeon of Shahabad, makes the following remarks regarding cholera in his district:—

"The general history of the disease for the year is much more unsatisfactory than that of the preceding year * * * The first portion of the district usually attacked is Sasseram, which is invariably the '*fons et erigo*' of all kinds of disease * * * Causes of outbreaks abound in every village and bustee in the district, and they have been repeatedly pointed out. Local insanitary causes exist in the shape of defective drainage, &c., but there are many common to all parts, such as foul wells and foul tanks, absence of any attention to conservancy, damp and unwholesome and ill-ventilated dwellings, defective and very scanty clothing, and many others too numerous to mention. A visit of inspection to an ordinary native village nearly always gives rise to the reflection, 'How is it possible for human beings to exist at all under such conditions?' It must be because they have in the course of ages acquired a tolerance to surroundings which would mean destruction to persons more happily circumstanced. While general insanitary conditions remain from year to year much the same, it is difficult to account for the disease committing greater ravages during one year than another. Different climatic conditions and their consequent effect on the population, rendering them less able to resist disease, may partly account for this. While the disease was more general this year, certain parts, notably the town of Arrah, enjoyed an unusual immunity. There is no record of any year during which so few deaths took place. There were only 46 per 1,000 recorded. As I previously stated, a large share of this result must be credited to improvements in sanitation. Some tanks have been cleaned and drains also; wells have been put in better order, and provided with spill-drains, platforms, ring walls, &c., and more attention has been paid to conservancy."

Dr. Rigby, the Civil Medical Officer of the Sonthal Pergunnahs, in describing the history of cholera in that district, which was about six times more severe in 1889 than in 1888, the number of registered deaths being 3,571 against 589, says:—

"The outbreak in Dumka was caused by the very filthy condition of the tanks from which the natives draw drinking-water and water for culinary purposes. On inspection they revealed a disgusting state of things, the water being covered by vegetation, slimy and emitting a very bad odour, the tanks being used for defecating on and the water polluted also by cattle. There is an adequate water-supply to the town, but with the native indolence they preferred drawing this filthy water to travelling a short distance to tanks reserved for this purpose, or public wells in the town. The epidemic in Shahabganj was due to the influx of strangers from the Purneah district, where the disease was very prevalent, and several cases were directly traced to some members of a party attending a funeral or wedding who used some foul stagnant water in the preparation of their sweetmeats: these all died. I cannot get any satisfactory cause as to the outbreak in Godda, where the largest number of deaths occurred, but the following extract from a letter from the Revd. A. Stark, Church Missionary Society, will explain the severity and duration of the epidemic when started. Mr. Stark says:—'This is what I saw. Corpses were buried scarcely a cubit deep. They were pulled out by dogs and jackals and left exposed to the hot sun, polluting the air and spreading disease. Bones, &c., still lie about. The people know nothing as to disposing of the motions, &c., which are thrown about around their houses and washed into wells and ponds by the rain.'"

As regards the existence of cholera in the interior of the district, Dr. Rigby says:—

"The sources of drinking-water are very limited, and no doubt this has been the cause of the severe outbreak of the disease, the water in most of the tanks being foul to the last degree, saturated with filth from cattle and the drainings from the tanks, which are used as latrines and for urinating, and the water used for washing clothes and cattle as well as for culinary and drinking purposes."

Dr. Zorab, the Civil Surgeon of Balasore, where there was a large increase of cholera in 1889 as compared with the previous year, says:—

"Chief among the causes ranks the bad and scanty water-supply of the district. Any delay in the rainfall induces the greatest distress, and there was grave danger of a water famine entertained both in town and in several parts of the district. There should be no delay; the water-supply question should be taken up thana by thana and village by village, and, wherever practicable, an adequate supply be provided for. It is distressing to reflect that in many parts of the district the people have to undertake journeys of three and more miles to obtain a *ghurrah* full of potable water."

27. The following tables contain detailed statistical information, district by district, regarding the cholera of 1889 as compared with that of 1888 and the average of the five years 1884-88. The tables also show the months of greatest prevalence in each district, and the areas which suffered most from the disease in 1889:—

Detailed statistical information regarding the Cholera of 1889 as compared with 1888 and the five years 1884-88.

district, regarding the cholera of 1889 as compared with that of 1888 and the average of the five years 1884-88. The tables also show the months of greatest prevalence in each district, and the areas which suffered most from the disease in 1889:—

BURDWAN DIVISION.—(Population 7,393,954.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Burdwan ...	13.90	5.31	8.59 I	3,430	2.46	1.07	1.37	1.39 I	.89 I	March to August.
Bankura ...	4.77	4.56	.21 I	1,647	1.58	.98	.61	.60 I	.67 I	February to August.
Birbhum ...	7.05	3.32	4.73 I	1,604	2.93	.93	1.97	1.70 I	.05 I	June to August and December.
Midnapore ...	7.47	5.57	1.90 I	3,871	1.53	1.25	1.52	.28 I	.01 I	January to June and December.
Hughli ...	9.81	16.73	6.92 D	511	.77	1.96	1.18	.40 D	.41 D	April and December.
Serampore ...	12.87	15.25	2.38 D	735	2.08	2.21	1.78	.13 D	.30 I	January, April to July, and October to December.
Total ...	10.86	16.22	5.36 D	1,246	1.22	1.59	1.39	.37 D	.17 D	April to July, November and December.
Howrah ...	18.98	26.53	7.55 D	1,454	2.28	2.93	2.33	.65 D	.05 D	January to May, November and December.
Total ...	8.54	6.92	1.62 I	13,256	1.79	1.97	1.54	.82 I	.25 I	January to August and December.

The areas which suffered most in 1889 were—In Burdwan, Raniganj T. (12.52); Outwa E. (9.35); Mongolkote E. (6.10); Katugram E. (4.03); Shahabganj E. (3.95); Burdwan T. (2.72); Ausgram E. (2.45), and Montessor E. (2.41). In Bankura, Sonamukhi T. (5.91); Bankura T. (4.41); Simlajal E. (1.08); Gangaolghata E. (2.41), and Bissenpur T. (2.17). In Birbhum, Sakulipur E. (14.31) and Bolpur E. (2.43). In Midnapore, Chundrakona E. (3.49); Jontal E. (3.07); Satabhatia E. (2.92); Binpur E. (2.82); Chundrakona T. (2.69), and Gurbolita E. (2.54). In Hughli, Hughli T. (3.12). In Serampore, Serampore T. (8.08); Uttarpara T. (6.89); Baidyabati T. (3.32); Singoor E. (2.65), and Serampore E. (2.22). In Howrah, Howrah T. (5.37); Bally T. (4.11); Shampur E. (2.83), and Doomjor E. (2.01).

PRESIDENCY DIVISION.—(Population 7,575,196.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
24-Pergunnahs ...	13.40	16.43	3.03 D	2,978	1.77	3.91	2.67	2.14 D	.90 D	January to June and December.
Nuddea ...	23.36	10.60	3.76 I	3,017	2.18	1.59	3.50	.50 I	1.32 D	January, March to July, and December.
Jessore ...	18.07	20.71	2.04 D	4,500	2.32	2.63	2.87	.31 D	.55 D	January, March to June, November and December.
Murshadabad ...	10.54	6.08	12.56 I	4,558	5.71	1.06	3.14	2.65 I	1.57 I	January to August.
Khulna ...	25.36	25.77	.41 D	3,942	2.73	3.57	2.40	.85 D	.32 I	January to July and December.
Total ...	19.08	17.65	1.43 I	14,434	2.45	2.60	2.78	.15 D	.33 D	January to July, November and December.

The areas which suffered most in 1889 were—In 24-Pergunnahs, Canning E. (7.34); Baranagar T. (6.53); Husnabad E. (5.54); Naihati T. (4.45); Nawabganj T. (3.77); Barrapore E. (3.44); Harwa E. (3.53); Dura-Dum E. (3.50), and Rajpore T. (2.30). In Nuddea, Nakasipara E. (7.52); Kaliganj E. (5.27); Kustia T. (4.11); Tachatta E. (3.80); Kurimpore E. (3.55); Dowlatpur E. (3.43); Bhadulia E. (3.34); Kishnagar E. (3.03); Nowpara E. (2.83), and Nobodip or Nuddea T. (2.63). In Jessore, Hursakundo E. (6.80); Lohagara E. (4.79); Narail E. (4.18); Mahamedpur E. (3.39); Magooria E. (3.37); Kalia E. (3.20); Sarsha E. (2.78); Montampur E. (2.57); Bagarpara E. (2.38); Jhonidah E. (2.19), and Talika E. (2.00). In Murshadabad, Bhagwanpola E. (10.56); Jangipur T. (6.47); Dewanwaral E. (6.41); Bharatpur E. (5.88); Gorabazar E. (5.40); Shamsarganj E. (5.24); City Murshadabad T. (5.27); Burwan E. (5.00); Burhanpur T. (4.61); Boghunathganj E. (4.13); Suti E. (3.96); Sagardighi E. (3.44); Khuragan E. (3.38); Kandi T. (3.09); Kandi E. (2.90); Assampur E. (2.82); Mirzapur E. (2.24); Dowlatbazar E. (2.22); Barwa E. (2.15); Shikhanagore E. (2.10), and Jellingli E. (2.08). In Khulna, Khulna T. (9.37); Dumuria E. (4.39); Rampal E. (3.63); Bhataghat E. (3.17); Mollahat E. (3.09); Kaliganj E. (2.86); Kalaroonh E. (2.71); Bagirhat E. (2.68); Paikgacha E. (2.32); Assamuni E. (2.29); Satkhira T. (2.28); Khulna E. (2.25), and Satkhira E. (2.23).

RAJSHAHYE DIVISION.—(Population 7,735,069.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Dinajpur ...	1.89	9.35	7.46 D	491	.83	.38	.68	.10 I	.34 D	April and May.
Rajshahye ...	5.48	7.18	1.70 D	1,179	.88	1.43	2.07	.60 D	1.79 D	January, April, May and December.
Rungpore ...	1.57	2.84	1.27 D	717	.54	.88	1.43	.34 D	.1.09 D	March and April.
Bogra ...	1.19	2.03	.84 D	175	.23	.53	1.43	.30 D	1.39 D	Slight.
Pubna ...	6.03	6.31	.28 D	768	.56	.72	1.67	.14 D	1.29 D	April and December.
Darjiling ...	8.63	3.74	4.89 I	491	3.15	1.30	.64	1.85 I	2.51 I	March to August.
Julpiguri ...	11.53	4.45	7.08 I	1,189	2.04	.58	1.16	1.46 I	.28 I	March to July.
Total ...	5.53	5.76	.23 D	5,010	.64	.78	1.55	.16 D	.91 D	April and May.

The areas which suffered most in 1889 were—In Dinajpur, Pura E. (2.46). In Rajshahye, Rungpore Bannak T. (4.96) and Godasari E. (2.25). In Rungpore, Rungpore T. (3.33). In Pubna, Pubna T. (3.08). In Darjiling, Karsana E. (5.19) and Phagesdewa E. (3.04). In Julpiguri, Sahari E. (7.39); Kairanti E. (6.90); Mynagori E. (3.75); Julpiguri T. (3.39), and Sittiguri E. (3.27).

DACCA DIVISION.—(Population 8,705,916.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Dacca ...	16'48	15'08	1'35 I	4,899	3'31	'06	3'41	1'35 I	'10 D	January to May and December.
Faridpore ...	30'23	19'57	5'06 I	6,409	3'96	1'70	5'38	2'36 I	'38 I	January to May, November and December.
Backerganj ...	37'31	32'17	5'14 I	10,416	5'47	4'18	3'42	1'35 I	2'05 I	January to June and December.
Mymensing ...	3'25	5'71	2'46 D	4,777	1'56	1'74	1'84	'18 D	'28 D	April to June and December.
Total ...	13'37	12'91	'36 I	26,561	3'05	2'08	2'81	'89 I	'44 I	January to June and December.

The areas which suffered most in 1889 were—In Dacca, Narainganj T. (5'63); Moonshiganj E. (5'09); Narainganj E. (4'23); Ruppaganj E. (3'85); Dacca T. (2'59); Raipura E. (2'33); and Dacca E. (2'07). In Faridpore, Bhuana E. (6'68); Polong E. (3'02); Maksudpur E. (5'67); Bhanga E. (5'16); Awanpore E. (3'83); Sibohar E. (3'29); Heikandi E. (3'15); Gopalganj E. (3'09); Goulundo E. (2'80); Maduripur E. (2'70); and Katalipara E. (2'40). In Backerganj, Golachipa E. (18'17); Gulshakhali E. (10'90); Patuakhali E. (8'19); Barisal E. (7'51); Mathbaria E. (7'03); Mondiganj E. (6'73); Burhanuddin E. (6'64); Bowfal E. (5'83); Backerganj E. (5'26); Barisal T. (4'85); Bhola E. (4'62); Bhandardia E. (4'14); Jhalakati E. (3'58); Nalchititi E. (3'36); and Gournadi E. (3'33). In Mymensing, Nasirabad E. (3'71); Bazitpore E. (2'72); Kishoreganj E. (2'68); Gaffarganj E. (2'34); Nikli E. (2'35); and Pengsa E. (2'00).

CHITTAGONG DIVISION.—(Population 3,467,474.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Chittagong ...	6'54	26'11	19'57 D	306	'34	2'30	1'24	1'96 D	'90 D	Slight.
Noakhali ...	12'36	7'00	5'36 I	1,691	2'04	'87	'06	1'39 I	1'10 I	March to July and December.
Tipperah ...	11'35	6'27	5'08 I	4,624	2'65	'02	1'78	1'73 I	'80 I	January to June and December.
Total ...	10'97	9'08	1'89 I	6,111	1'76	1'31	1'40	'45 I	'36 I	Ditto ditto.

The areas which suffered most in 1889 were—In Noakhali, Lakshimpur E. (4'64); Hathia E. (3'72); Sudharam E. (2'86); and Rangaj E. (2'30). In Tipperah, Chandpur E. (3'01); Comilla T. (2'92); Laksham E. (2'07); Moradnagar E. (2'61); Jogunmudhi E. (2'54); Brahmanbaria E. (2'47); Daudkandi E. (2'45); and Brahmanbaria T. (2'28).

PATNA DIVISION.—(Population 15,063,944.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Patna ...	6'72	6'75	'01 D	1,621	1'05	1'19	1'33	'16 D	'79 D	June to September.
Gya ...	8'82	2'60	6'22 I	3,422	1'61	1'00	2'72	'61 I	1'11 D	June to October.
Shahabad ...	5'18	2'11	3'07 I	4,080	2'07	'98	2'87	1'15 I	'80 D	July to November.
Muzaffarpore ...	6'91	11'61	4'70 D	3,694	1'42	1'63	2'04	'23 D	'62 D	Ditto ditto.
Durbhanga ...	3'05	7'37	4'34 D	3,551	1'31	1'84	1'57	'50 D	'33 D	Ditto ditto.
Baran ...	5'19	6'40	1'21 D	1,756	'76	1'01	1'58	'25 D	'83 D	July to October.
Chumpran ...	1'23	9'37	8'15 D	740	'42	6'02	5'81	6'20 D	5'30 D	May, September and October.
Total ...	5'06	6'53	1'46 D	19,044	1'26	1'92	2'27	'66 D	1'01 D	July to October.

The areas which suffered most in 1889 were—In Patna, Dinapore E. (12'73); Barh T. (3'85); Manar E. (3'50); and Patna T. (3'01). In Gya, Gya T. (6'00); Nobinagar E. (5'23); Arungabad E. (3'08); Rajowli E. (2'63); and Arwal E. (2'14). In Shahabad, Mohania E. (6'02); Buxar T. (5'94); Dehree E. (4'08); Samsaram E. (3'93); Dumraon T. (2'91); Buxar E. (2'89); and Bhatusa E. (2'69). In Muzaffarpore, Sitamarhi T. (4'08); Pupree E. (3'63); Sitamarhi E. (3'10); Katra E. (2'25); and Laiganj T. (2'08). In Durbhanga, Durbhanga T. (5'71); Durbhanga E. (3'41); Benipaty E. (2'89); and Madhubani E. (2'32). In Baran, Revilganj T. (3'08).

BHAGULPORE DIVISION.—Population (8,063,160.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Monghyr ...	6'17	8'00	'06 I	2,045	1'05	1'17	1'75	'14 D	'78 D	June to October.
Bhagulpore ...	9'77	5'64	4'13 I	3,095	1'57	'74	1'53	'85 I	'44 I	April, May, July, August and October.
Purneah ...	26'97	2'37	25'50 I	17,760	9'40	'47	'89	9'13 I	8'71 I	March to May and November.
Maldah ...	5'57	17'17	11'60 D	1,080	1'53	4'47	2'70	2'95 D	1'18 D	April to June, August and December.
Southal Pergunnahs ...	5'08	1'16	3'92 I	3,551	2'27	'37	1'19	1'90 I	1'08 I	April to September.
Total ...	9'52	8'09	1'43 I	27,541	3'41	1'04	1'47	2'37 I	1'94 I	March to October.

The areas which suffered most in 1889 were—In Monghyr, Jamalpore T. (7'06); Monghyr T. (3'06); and Kharakpore E. (2'27). In Bhagulpore, Partabganj E. (5'08); Sultanganj E. (4'47); and Katuria E. (2'78). In Purneah, Purneah E. (25'45); Araria E. (15'83); Godwara E. (15'35); Raniganj E. (13'31); Dhamdaha E. (12'48); Motihari E. (12'43); Kadiria E. (10'43); Purneah T. (10'22); Kucha Amoor E. (7'84); and Monihari E. (4'02). In Maldah, English Bazar E. (3'04); English Bazar T. (2'72); Khatkhola E. (2'41); and Gomastapur E. (2'21). In Southal Pergunnahs, Deoghar T. (5'27); Godda E. (4'47); Pakour E. (3'99); and Rajmahal E. (3'53).

ORISSA DIVISION.—Population (3,628,832.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Cuttack ...	27.99	11.81	16.18 I	14,687	8.29	2.12	3.73	6.17 I	4.87 I	April to December.
Poori ...	58.67	12.85	45.82 I	18,669	21.01	2.30	5.18	18.62 I	15.83 I	March to December.
Balasore ...	35.92	10.30	25.60 I	12,993	13.74	1.97	4.51	11.77 I	9.23 I	January to August, November and December.
Total ...	37.68	11.61	26.07 I	46,549	12.82	2.15	4.28	10.67 I	8.54 I	March to December.

The areas which suffered most in 1889 were—In **Cuttack**, Hunki R. (22.19); Aul R. (12.65); Cuttack R. (11.96); Jajipore T. (8.99); Dharmasala R. (8.90); Kendrapara R. (8.73); Tirtolah R. (7.51); Patamundi R. (6.99); Jajpur R. (6.22); Salipure R. (5.98); Kendrapara T. (5.71); Cuttack T. (4.60); and Juegutsingpur R. (3.64). In **Poori**, Bhanpur R. (65.99); Khurda R. (35.39); Poori T. (23.76); Poori R. 20-36; Piplee R. (13.22); and Gope R. (6.30). In **Balasore**, Basudebpore R. (21.91); Chandbali R. (23.91); Balasore R. (17.69); Bhadrack R. (13.27); Dhamnagar R. (11.84); Soro R. (11.08); Busta R. (10.91); Balasore T. (10.43); Baliapal R. (10.40); and Jellasure R. (6.04).

CHOTA NAGPORE DIVISION.—Population (4,225,989.)

DISTRICTS.	Percentages of Villages attacked with Cholera in—		Increase or decrease as compared with 1888.	Number of deaths from Cholera in 1889.	Ratio per 1,000 of population.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884-88.	Months of greatest prevalence.
	1889.	1888.			1889.	1888.	1884-88.			
Hazaribagh ...	1.20	2.71	1.51 D	790	.71	1.80	1.44	1.09 D	.73 D	June and August.
Lohardugga ...	5.64	1.17	4.51 I	5,213	3.23	.65	1.55	2.58 I	1.68 I	June to September.
Singbhum ...	4.92	6.24	1.32 D	509	1.12	1.17	.50	.05 D	.62 I	May and July to September.
Manbhum ...	4.64	12.06	7.42 D	1,015	1.60	4.13	1.57	2.53 D	.23 I	April to August.
Total ...	3.89	4.05	1.06 D	8,427	1.99	1.88	1.41	.11 I	.58 I	May to September.

The areas which suffered most in 1889 were—In **Hazaribagh**, Ramchur R. (2.08) and Hazaribagh T. (2.33). In **Lohardugga**, Ranchi T. (12.52); Ranchi R. (10.72); Mandar R. (10.04); Karra R. (9.68); Susal R. (8.31); Lohardugga R. (8.06); Mohowadand R. (2.52); Latehar R. (2.44); Chainpur R. (2.34); Balunat R. (2.33); and Khuntia R. (2.07). In **Singbhum**, Chuekradharpur R. (3.33). In **Manbhum**, Purulia T. (1.00); Per R. (5.00); Gournadi R. (3.27); Ichaghar R. (2.63); Purulia R. (2.45); Chass R. (2.25); and Raghunathpur R. (2.06).

PORT OF CALCUTTA.

Admission into Hospital of European Seamen in—		Deaths among this number in—		Ratio of Deaths per 1,000 of Population in—		Average strength of European Seamen in—					Ratio of Deaths per 1,000 of Population in—						
1889.	1888.	1889.	1888.	1889.	1888.	1889.	1888.	1887.	1886.	1885.	1884.	1883.	1882.	1881.	1880.	1879.	1878.
33	26	18*	16	11.07	10.59	1,026	1,510	1,893	2,320	1,603	1,664	1,600	11.07	10.59	10.03	11.17	4.13
																21.3	19.8

* Including 1 death out of hospital.

Among the native floating population there were 80 deaths in 1889, against 95 in 1888, giving death-rates of 3.12 and 3.70 respectively of estimated population.

28. The incidence of cholera at fairs and festivals was slight during the year under review except in Poori, where there was a large increase of cholera among persons and pilgrims attending the religious festivals in that district. As this matter has been referred to at length in the extract from the Civil Surgeon's report quoted in paragraph 25, I need not say anything further on the subject in this paragraph.

SMALL-POX.

29. The table in the margin shows the number of deaths from small-pox during the year under review and in each of the past ten years. The ratios of deaths per 1,000 of the population, the percentage of villages attacked, the number of circles affected more or less in each year, and the number of circles from which the disease was absent altogether, is also given. It will be seen that the number of deaths during 1889 and the death-rate of that year were considerably higher than in 1888, but less than the average of the

Prevalence of Small-pox in the Province and seasonal incidence of the disease.

Period.	Number of deaths.	Ratio per 1,000 of population.	Percentages of Villages attacked by Small-pox.	NUMBER OF CIRCLES—	
				Affected more or less severely.	From which Small-pox was absent.
1889 ...	8,665	'13	1'58	18	326
1888 ...	6,247	'09	1'19	7	373
1887 ...	3,846	'05	'90	4	377
1886 ...	4,040	'06	'97	5	359
1885 ...	9,843	'14	2'42	18	272
1884 ...	18,533	'28	2'94	53	124
1883 ...	9,714	'14	1'73	30	284
1882 ...	13,651	'20	2'87	38	290
1881 ...	24,871	'36	4'37	43	218
1880 ...	24,853	'34	4'86	54	241
1879 ...	22,843	'34	4'08	77	171
Mean of the decade 1879—1888 ...	13,607	'20	2'64	32	290

ten-years period 1879—1888

30. The seasonal incidence of small-pox during 1889 was as follows:—

MONTHS.			Deaths from Small-pox.	Ratio per mille.	MONTHS.			Deaths from Small-pox.	Ratio per mille.
January	...	...	596	'009	July	...	...	766	'01
February	...	...	831	'01	August	...	...	376	'005
March	...	...	981	'01	September	...	...	613	'009
April	...	...	1,470	'02	October	...	...	162	'003
May	...	...	1,245	'01	November	...	...	196	'003
June	...	...	958	'01	December	...	...	471	'007

As usual, the highest mortality occurred from the end of February to the end of July.

31. The comparative mortality from small-pox in urban and rural areas is shown in the margin.

Comparative mortality in Urban and Rural Circles.

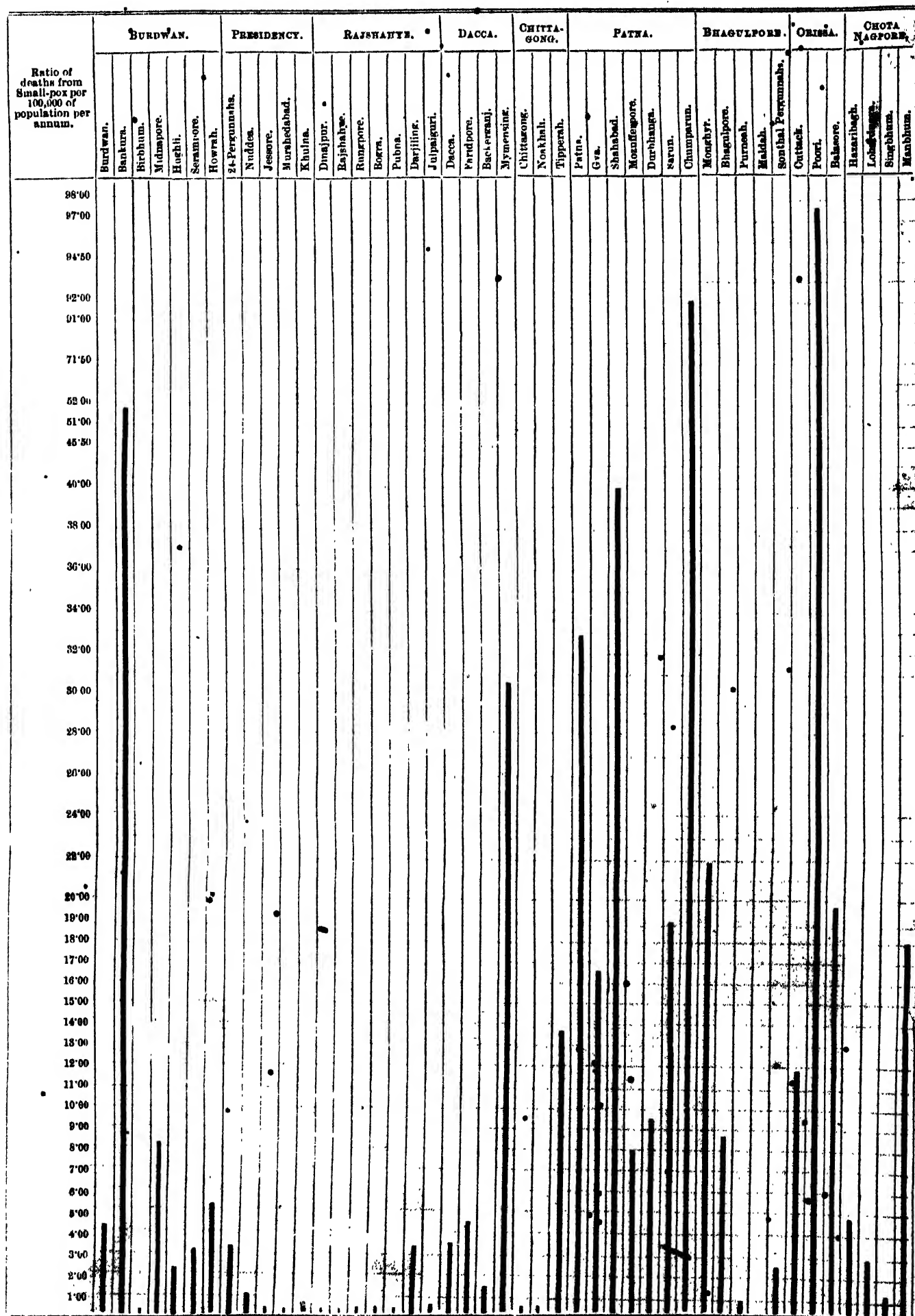
Circles.	DEATHS FROM SMALL-POX IN—			RATIO PER 1,000 OF POPULATION.			Increase or decrease as compared with 1888.	Increase or decrease as compared with 1884—88.
	1889.	1888.	Quinquennium 1884—88.	1889.	1888.	1884—88.		
Urban Circle	653	380	812	'29	'10	'37	'18 I	'08 D
Rural ..	8,012	5,857	7,026	'12	'03	'11	'03 I	'01 I

which is not creditable to Municipal Commissioners. The towns which suffered most from the disease were:—Bankura (4·80), Poori (2·25), Bissenpore (1·80), Cuttack (1·04), Purulia (.85), Lalganj (.83), Chupra (.81), Patna (.71), Dumraon (.67), South Suburban (.51), Dinapore (.53), Revilganj (.48), and Buxar (.45).

Diagram and map showing the incidence of Small-pox in the Province.

32. The diagram on the next page and the shaded map facing it shows the incidence of small-pox mortality in the Province during the year under review.

Diagram showing the death-rates from SMALL-POX per one hundred thousand of population during the year 1889.



Map of the LOWER PROVINCES OF BENGAL SHOWING THE DEATH-RATE FROM SMALL-POX during 1889.

Scale 1 inch = 100 miles

REFERENCES.

Districts in which the rates of deaths from
Small-pox per one hundred thousand
of the population ranged —

From 0 to 1

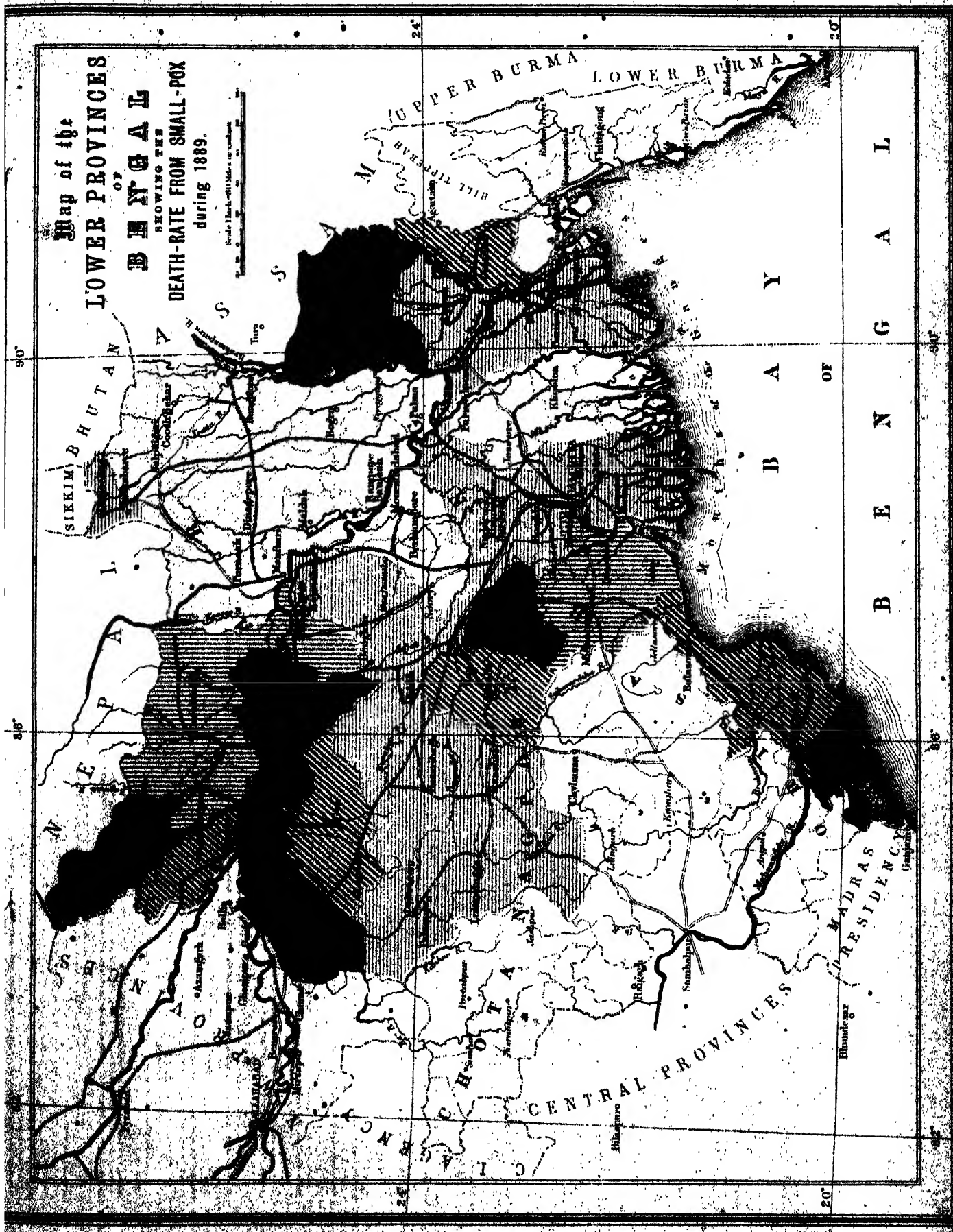
" 1 to 5

" 5 to 10

" 10 to 20

" 20 to 30

" 30 and upwards



33. The disease prevailed with the greatest severity in the districts of Poori, Chumparun, Bankura, Shahabad, Patna, and Mymensing. In Poori the mortality of 1889 was largely in excess of that of 1888. The disease appears to have been imported from outside, the people of Poori being more or less the victims of an invasion of it from the Khorda subdivision, where the people strongly object to and resist vaccination, and where inoculation is largely practised among the aborigines of the place. As a consequence of this, small-pox is both endemic and epidemic in the greater part of the Khorda subdivision. In Chumparun the small-pox mortality was high because the district had not been protected by vaccination. It is now being protected. It is not clear to what cause the excessive mortality in Bankura is due. The district has not suffered from an epidemic of small-pox for many years. The matter is being enquired into and will be further dealt with in my Triennial Report on Vaccination which is due this year. In Shahabad small-pox was more prevalent and more widely distributed in 1889 than it has been for some years back, but its chief intensity fell upon Sasseram town and thanna. Vaccination has not made much progress, and great opposition was met with, and unfortunately the Municipal Commissioners with their Chairman did not lend the assistance in furthering its advance which they might and should have done. No explanation is given of the high rate of mortality in Patna. The matter will be enquired into and referred to again in my Triennial Vaccination Report. In Mymensing the excessive mortality from small-pox is to be attributed to the strong prejudices of the people against vaccination, which, however, is being gradually overcome.

34. The mortality from small-pox among infants and children is given in the margin, and shows that 70·62 per cent. of the total mortality from this disease in the Province occurred among children under 12 years of age. In 1888 the percentage was 80·82, so that there is an improvement in this respect, although the rate is still very high. The excessive mortality among children is due chiefly to the difficulty experienced in some districts in inducing parents to have their children protected, even in the face of severe epidemics.

	Deaths.	Proportion per cent. to total mortality.
Under one year	1,941	22·40
One year to six years	2,841	32·78
Six years to twelve years	1,338	15·44
Total under twelve years ...	6,120	70·62

inducing parents to have their children protected, even in the face of severe epidemics.

35. In the Port of Calcutta no deaths occurred from small-pox during 1889 either among European seamen or the native floating population. This makes the ninth year that European seamen in the Port have enjoyed total immunity from the disease, and the fourth year that the native floating population have escaped from it.

Incidence of Small-pox in the Port of Calcutta.

FEVER.

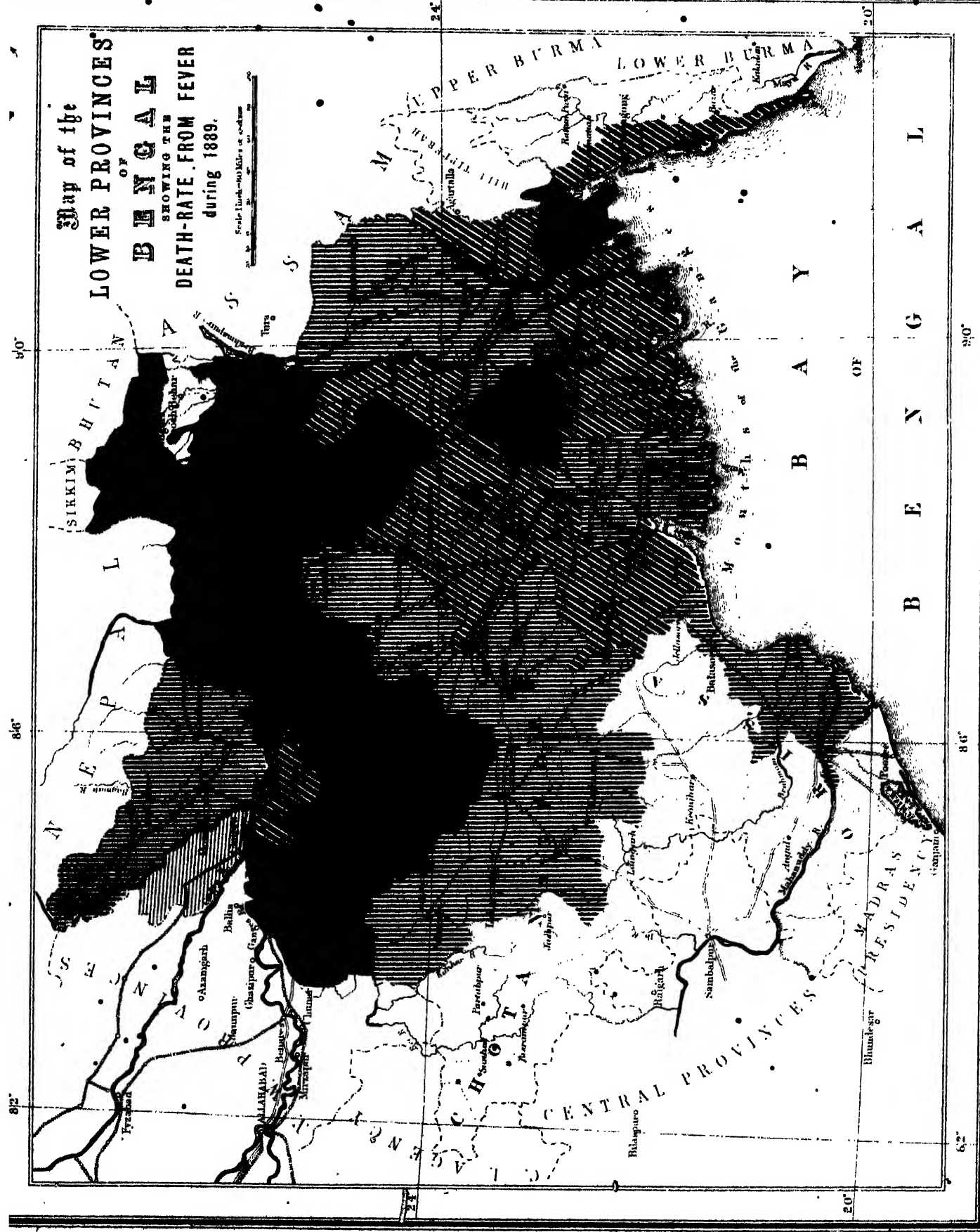
36. During the year under review 589,252 males and 512,269 females, or a total of 1,101,521 persons, representing a death-rate of 16.72 per 1,000 of the population; were reported to have died from fever, against 1,092,102, or a death-rate of 16.53, in 1888. The increase therefore in 1889 as compared with 1888 amounted to 9,419, or .19 per mille. The mean of the previous ten years is 934,203, which is equivalent to a death-rate of 14.12 per mille. The table

Comparative mortality from Fever in the Urban and Rural circles.

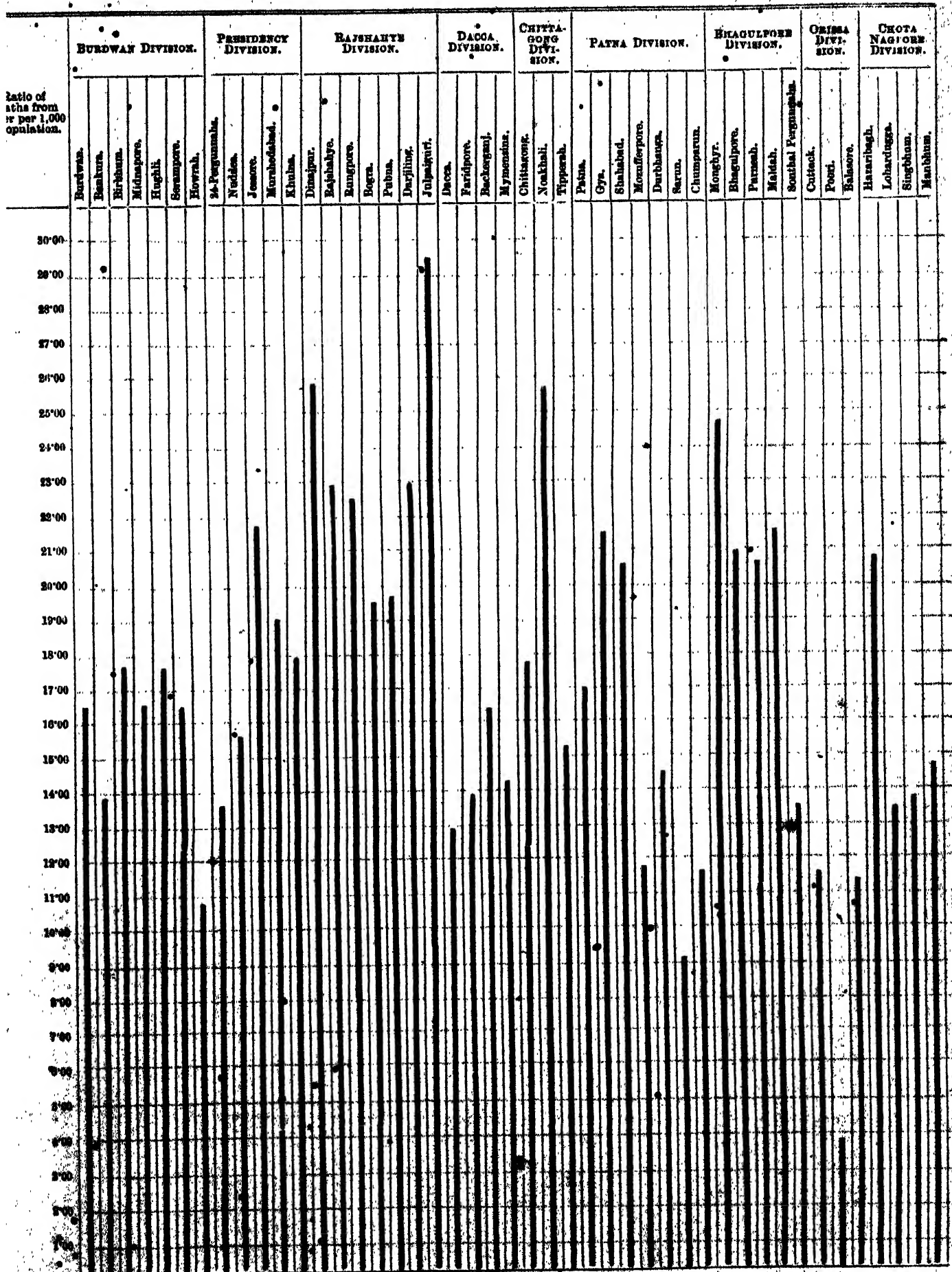
CIRCLES.	DEATHS FROM FEVER IN—				RATIO PER 1,000 OF POPULATION IN—				Increase or decrease as compared with decade 1879-88.	Increase or decrease as compared with 1884-88.
	Decade 1879-88.		Quinquennial 1884-88.		Urban.		Rural.			
Urban	23,781	24,836	33,475	25,056	10.84	10.30	15.26	11.42	54.7	4.42 D
Rural	1,077,710	1,067,260	900,728	1,020,277	16.92	16.76	14.14	10.02	16.7	2.78 I

in the margin compares the mortality from fever in urban and rural circles during 1889, 1888, the five-years period 1884—1888, and the ten-years period 1879—88. It will be seen that, with the exception of a small increase in towns in 1889 as compared with 1888, due to a smaller urban population in 1889, fever was less prevalent in towns and more prevalent in rural circles during the year under report than in the past periods with which that year is compared. I do not believe there has been such a remarkable change in the incidence of fever in towns as is represented. The low rate of mortality as compared with that in rural circles is, I think, as suggested in the Government Resolution on my Report for 1888, in some measure due to the indiscriminate classification of all diseases with inflammatory symptoms as fever in the more rural and less educated tracts of the country. In the whole of Bengal the number of villages attacked by fever was 159,568, or a percentage of 68.08, in 1889, against 162,650, or a percentage of 69.80, in 1888.

37. The diagram facing this page shows the mortality from, and the seasonal incidence of, fever in Bengal, together with the annual rainfall of the Province for the past sixteen years. It will be observed that the number of deaths and the death-rate per 1,000 of the population ~~was~~ higher in 1889 than in any of the previous fifteen years with which that year is compared, and that, with the exception of one or two years, there has been a steady increase year by year in the number of deaths recorded from fever. It is probable that this result is due to improvement in registration and increase in the population rather than to greater unhealthiness of climate. If the present population of Bengal is estimated at 74,482,274, as explained in paragraph 2 of this Report, the death-rate from fever would be 14.78 per mille and not 16.72, which is calculated on the Census population of 1881, viz., 65,859,534. The seasonal incidence of fever in Bengal is striking. It will be seen from the diagram that the lowest mortality is invariably in the month of June, from which month it gradually rises till it reaches its maximum either in November or December, then it gradually declines till February as a rule, then there is a slight increase in March and April, and then it falls to its minimum in June.



38. The following diagram and the shaded map on the opposite page illustrate the mortality from fever in each district of the Province during the year under review :—



It will be seen that the

DISTRICTS.	Ratio per mille.	DISTRICTS.	Ratio per mille.
Jalpaiguri ...	29.18	Jessore ...	21.44
Noakhali ...	28.77	Gya ...	21.21
Dinajpur ...	25.74	Maldah ...	21.20
Monghyr ...	24.84	Bhagulpore ...	20.55
Darjiling ...	22.23	Hazaribagh ...	20.54
Rajshahye ...	22.74	Purneah ...	20.53
Rungpore ...	22.07	Shahabad ...	20.45

but in such districts as Monghyr, Gya, Bhagulpore, Hazaribagh, and Shahabad, which have hitherto been healthy, an explanation of the high rate of mortality now occurring is not so easily traced. The Civil Surgeons of the districts in question, except the Civil Surgeon of Shahabad, make no remarks in their annual reports which throw any light on the subject. The Civil Surgeon, Shahabad, (Dr. Macrae) says :—

“The general health of the district as a whole during 1889 was decidedly bad, and has been so as a matter of fact for the past five years. Instead of being, as it was once considered, a healthy district, it now takes rank, if statistics are to be at all relied on, as the 5th or 6th unhealthiest in the whole Province, calculating on the average of the last five or six years, and in 1886 it held the unenviable position of first on the list. Fever is as usual responsible for the chief mortality. Epidemics are now of frequent occurrence. Upwards of 90 per cent. of all the villages in the district suffered from the fever epidemics, and in some of the registering circles hardly a village escaped. In fatality from fever Shahabad is worse than the majority of districts in Bengal, and is only exceeded by the districts in the Rajshahye Division. Although there was no startling epidemic like that which prevailed in the last quarter of 1888, still the disease prevailed with much severity and in an epidemic form, and was more generally prevalent throughout the year. The alleged excessive prevalence of fever in the district for the last few years is locally attributed, and not without some show of reason, to the influence of canal irrigation and interference with drainage and water-logging of the soil. I am of opinion that irrigation as carried out has no doubt injuriously affected public health.”

The Magistrate of Shahabad, in forwarding the Civil Surgeon's report, says :—

“I concur generally with the Civil Surgeon's remarks. I am afraid that there is little doubt that the increase of irrigation has unfortunately affected the ordinary health of the district. It however provides an immunity from famines, and thus prevents increased mortality and general deterioration of health from scarcity in years when the rainfall is abnormally low.”

39. In the Government Resolution on my Report for 1888 it was suggested that the high rate of mortality in Gya, Hazaribagh, Monghyr, and Shahabad “might be found in the existence of a wave of malarious fever creeping gradually westward independently of, though not, of course, uninfluenced by, conditions of surface drainage.” I have not been able to discover as yet how far, if at all, this is so ; but I must confess that I do not myself incline to this view of the case. I still think that the explanation is rather to be found in stagnation of moisture in the ground due to impeded drainage. There is no doubt that the want of proper drainage of the soil is the principal cause of the great prevalence of malarial fever in Bengal. As a rule, fever is most prevalent in districts where drainage is worst. The notorious Burdwan fever epidemic of 1863—73, which carried off many hundred thousands of people, was due to impeded drainage. The drainage of the district became obstructed by the construction of certain embankments which led to the silting up of its natural and artificial outlets, the result being a water-logged condition of the soil, the development of malaria, and an alarming increase in the death-rate. As soon as steps were taken to remove the obstruction to drainage, the district became somewhat dry, and the result was an amelioration of health. Another cause which led to this happy result is said to have been the admission of the water of the river Damuda into the Kana Nadi and the Kana Damuda and other creeks and channels in the districts of Burdwan and Hughli. It is certainly remarkable that the health of the villages situated on these water-courses since the introduction into them of Damuda water has been much better than that of villages situated elsewhere in the same district ; and as the death-rate from fever is still high in Burdwan and Hughli, I would strongly recommend, as a means

of reducing it further, that as many as possible of the water-courses which are not at present fed by the Damuda should have the water of that river introduced into them, at least during the rains when the river is in flood and contains a large volume of water. I understand that there would be no difficulty, or much expense either, in carrying out this suggestion, as sluice-gates already exist in many of the partially silted up water-courses which it is proposed to flush and feed.

40. The prevalence of malarial fever in Bengal is sometimes attributed to inundations and artificial irrigation. Inundations, however, are not in themselves hurtful; on the contrary, they are beneficial as a means of flushing. It is only when the surface drainage is obstructed, and the water sinks into and stagnates in the soil, that the locality becomes malarious. As this is an important and interesting question, I give some extracts from the Civil Surgeons' reports on the subject:—

Dr. Mukerjee, the Civil Medical Officer of Bankura, says:—

"This district is almost unknown to inundation except the southern side of the treacherous river Damuda; but quickly as the water subsides, the overflowing does not appear to affect the health of the people."

Dr. Barker, Civil Surgeon of Serampore, says:—

"There was no inundation. Irrigation as practised here does not appear to be injurious to health, as the growing crops apparently prevent deleterious emanations, and the rapid drying action of the sun soon checks the bad effects of humid vapours."

Dr. Tomes, the Civil Surgeon of Howrah, says:—

"There was again some flooding of the country about Uluberia, but this was not attended with any increase of sickness. In fact, as far as fever is concerned, that circle was the healthiest of the district, the death-rate from fever amounting to 10·1 per 1,000 only."

N.B.—The drainage of Uluberia is comparatively good, and flood water quickly flows off.

Dr. Edwards, Civil Surgeon of Nuddea, says:—

"Very little artificial irrigation is carried on in this district. The effects of the inundations this year have as usual been decidedly beneficial. The general health of the district is always improved by heavy floods: they clean the country, wash out the ditches, fertilize the land, and leave behind them a good supply of comparatively clean water."

Assistant Surgeon Khurgeshur Bose, in civil medical charge of Faridpore, says:—

"During the year 1889 there was general inundation in the district as was the case in previous years. But the river rose unusually high during the months of July, August, and September, higher even than in 1886, submerging almost the whole of the district. The water of the Padma pushed up even to the civil station, and there was scarcely any house in the town of Faridpore above flood water. The flood lasted unusually long during the year. The health of the district, however, was not materially affected by the inundation. It washed away much impurities from the district and covered those that were left behind with a layer of new silt, and thus helped in the work of sanitation, but it did material injury to the crops."

Dr. Gilligan, the Civil Surgeon of Durbhanga, says:—

"There are no irrigation works in this district. Slight temporary inundations were reported from the north-west of the district, which necessitated the resowing of some rice lands, but otherwise did not do any harm."

Dr. C. M. Russell, Civil Surgeon of Sarun, says:—

"Malarial fever was extremely prevalent owing to the large quantity of stagnant water that flooded the country during the rainy season, and which on its evaporation became a fruitful source of marsh, leaving the low lands swampy and saturated with moisture, and so causing noxious effluvia from fermentation and decomposition of vegetable debris. Malarial fever first made its appearance in an epidemic form in this district in 1881, and has prevailed in this form with fluctuation ever since. It owes its origin, no doubt, to a combination of causes—(a) to canal irrigation, (b) to the country generally being over-cultivated, so that the natural drainage lines are choked up, (c) to the railway line, the Bengal and North-Western Railway Company having erected a bund right across the district without providing a sufficient number of culverts and waterways, and (d) to the difficulty attending drainage schemes by reason of the general level being below that of the rivers in high flood."

There is no doubt Dr. Russell is perfectly right about railways obstructing the natural drainage of the country, and not providing sufficient waterways in their bunds and embankments. I dwelt on the subject at length in my annual report for 1888, and I beg again to draw attention to those remarks. It is the universal cry in Bengal that sufficient waterway is not provided in railway and road embankments.

Dr. Stewart, the Civil Surgeon of Cuttack, says:—

“No unusual inundations took place. During heavy floods the lower parts of the district near the coast are overspread by water which does not seem to affect the health of the inhabitants.”

Assistant Surgeon K. C. Dutt, in civil medical charge of Pubna, says:—

“The district of Pubna was inundated to a greater extent in 1889 than in 1888. On the whole the effects of inundations appear to have proved beneficial to the health of the people as well as to the winter crops, as it washed away the surface organic and vegetable impurities and deposited silt all over the country.”

Mr. Sharp, the Magistrate of Bogra, makes the following remarks with reference to the high rate of fever mortality in the west, north-west, and north of Bogra during the year under review:—

“Not only is there more jungle in the west, north-west, and north of the district, but the soil is damper and closer. It is fertile, and produces grass like North Behar. The character of the north-western part of the district (where I am now in camp) resembles that of Rungpur and Dinajpur, the adjoining districts, rather than the drier and sandier parts in the middle and south. It is quite natural that Shariyakandi should be the healthiest thanna. It is well washed every year by floods, which fall in good time.

Assistant Surgeon A. C. Mookerjee, in civil medical charge of Noakhali, says:—

“Malarious fever is an endemic disease in the district on account of the dampness of the soil. A large portion of the district is annually flooded, and after the rains becomes swampy owing to the low level of the district and want of proper drainage. Fever prevailed to a greater extent than usual both in urban and rural areas. The disease began towards the end of October and continued up to nearly the end of December, when it declined. The untimely rain in October appeared to cause this increase of fever by soaking the ground and keeping it moister much longer than usual.”

Chumpuran furnishes a striking proof that inundations in themselves do no harm. The year under report was one of excessive rainfall and unusual floods, and Dr. Boville, the Civil Surgeon, says that “the parts that were flooded are not those in which the highest mortality occurred.”

41. The following tables contain detailed statistical information, district by district, regarding the prevalence of fever in 1889, as compared with 1888 and the average of the five years 1884—88. The figures speak for themselves:—

Detailed statistical information regarding the prevalence of Fever in 1889, as compared with 1888 and 1884—88.

BURDWAN DIVISION.—(Population 7,393,954.)

DISTRICTS.	Percentages of Villages affected by Fever in—		Increase or decrease as compared with 1888.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884—88.	Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884—88.
	1889.	1888.		1889.	1888.	1884—88.	1889.	1888.	1884—88.				
Burdwan ...	88.13	85.16	3.97 D	22,861	22,147	28,101	16.48	15.91	16.89	714 I	810 D	81 I	17 D
Bankura ...	63.60	60.73	2.87 I	14,501	13,742	13,251	15.91	15.19	15.74	750 I	1,230 I	480 I	1.17 I
Medinipur ...	77.08	74.94	2.14 I	14,001	13,425	14,234	17.62	16.41	17.91	1,586 I	225 D	1,771 I	1.16 I
Midnapore ...	69.19	68.89	.30 I	41,582	43,397	38,718	20.52	21.23	18.38	1,765 I	2,869 I	1,104 I	2.16 I
Hughli ...	89.06	92.51	3.45 I	11,514	10,731	10,508	17.36	16.18	16.84	783 I	1,006 I	223 I	1.88 I
Serampore ...	94.58	80.41	14.17 I	5,758	4,257	4,162	16.26	12.17	17.52	1,671 I	1,506 I	1,657 I	4.35 I
Total ...	90.94	87.63	3.31 I	17,372	15,018	14,970	17.61	16.79	16.45	2,854 I	2,802 I	52 I	2.50 I
Hawrah ...	84.23	89.10	4.88 D	6,944	6,803	6,118	10.94	10.84	9.62	51 I	620 I	569 I	1.20 I
Total ...	73.46	72.36	1.10 I	117,361	116,563	110,117	15.84	15.76	14.99	600 I	7,044 I	6,444 I	600 I

The areas which suffered most in 1889 were—In Burdwan, Gangoor E. (22.41), Burdwan E. (21.25), Gidua E. (20.33), and Salimabad E. (20.79). In Bankura, Serampore E. (22.75) and Soory E. (20.15). In Midnapore, Dobra E. (24.25) and Panchpur E. (20.61). In Hughli, Panchpur E. (25.56); Polba E. (23.19); Hughli E. (22.11), and Dhanakhal E. (22.45). In Serampore, Haripal E. (22.07).

PRESIDENCY DIVISION.—(Population 7,575,196.)

DISTRICTS.	Percentage of Villages affected by Fever in—		Increase or decrease as compared with 1889.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.
	1889.	1888.		1889.	1888.	1884-88.	1889.	1888.	1884-88.				
24-Pergunnahs ...	80.88	78.20	1.48 I	23,394	30,538	23,683	13.68	16.35	14.12	7,644 D	759 D	5.68 D	5.68 D
Nuddes ...	92.28	84.10	5.67 I	25,950	39,961	35,989	15.67	18.33	23.55	4,411 D	13,019 D	5.68 D	7.46 D
Jessore ...	88.55	87.49	0.44 D	41,590	35,510	37,930	21.44	18.46	19.88	3,780 I	3,640 I	1.24 I	1.24 I
Murshedabad ...	92.41	90.94	1.75 D	23,313	25,587	25,202	19.00	20.82	20.84	2,344 D	1,880 D	1.85 D	1.04 D
Khulna ...	80.89	78.98	5.71 I	19,338	20,170	19,538	17.81	18.67	18.60	938 D	500 D	.88 D	.88 D
Total ...	86.06	85.40	.60 I	132,985	142,496	145,312	17.55	18.33	19.18	9,451 D	19,327 D	.77 D	1.63 D

The areas which suffered most in 1889 were—In 24-Pergunnahs, Dum-Dum E. (28.34), Cossipore and Chittpore T. (28.97), and Kelpore T. (22.88). In Nuddes, Haringhatta E. (22.63) and Chingdi E. (22.00). In Jessore, Gaichatta E. (30.50); Harinakundo E. (28.54); Bagherpara E. (24.55); Salikha E. (24.47); Narail E. (24.10); Jessore E. (23.93); Keshubpur E. (22.60); Jhenida E. (22.30); Lohagara E. (22.05); Monirampur E. (22.01); Jessore T. (21.42); Shursha E. (21.19); Kalugan E. (21.16); Boncong E. (20.98); Kutchandpur E. (20.27), and Masora E. (20.13). In Murshedabad, Shamshergunge E. (29.26); Sagordighi E. (25.94); Gorabazar E. (24.23); Shahunagore E. (24.15); Sujagan E. (23.73); Assanpur E. (23.70). Dovanera E. (21.58); Dowlatbazar E. (24.23); Kallagan E. (22.30); City Murshedabad T. (20.52), and Bhagwanpola E. (20.72). In Khulna, Magura E. (24.66); Kalausa E. (23.05); Sathira E. (23.50), and Dumuria E. (21.17).

RAJSHAHYE DIVISION.—(Population 7,735,069.)

DISTRICTS.	Percentage of Villages affected by Fever in—		Increase or decrease as compared with 1889.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.
	1889.	1888.		1889.	1888.	1884-88.	1889.	1888.	1884-88.				
Dinajpur ...	87.74	91.31	3.55 D	38,988	42,101	35,037	25.74	27.84	23.18	3,173 D	3,951 I	2.10 D	2.61 I
Rajshahi ...	93.70	97.40	3.70 D	50,473	31,250	35,710	22.74	23.55	24.65	786 D	5,337 I	.61 D	3.91 D
Kumtore ...	94.38	96.27	1.89 D	46,110	31,008	40,360	22.07	24.78	23.32	2,698 D	5,050 D	2.71 D	1.45 D
Bogra ...	74.13	69.28	4.85 I	14,103	16,375	16,375	19.23	22.16	22.32	2,164 D	2,372 D	3.53 D	3.10 D
Pahna ...	81.52	87.83	1.10 D	25,579	27,871	33,018	19.50	21.24	21.16	2,293 D	7,437 D	1.74 D	5.06 D
Darjiling ...	72.51	61.19	11.32 I	5,500	3,703	3,471	22.93	24.00	16.87	191 D	1,098 I	1.16 D	7.06 I
Julpiguri ...	89.77	85.77	5.73 I	16,096	17,643	15,388	39.18	20.33	28.42	646 D	1,508 I	1.15 D	2.76 I
Total ...	87.91	88.25	.34 D	178,018	190,900	187,357	22.75	24.88	24.22	14,943 D	11,339 D	1.98 D	1.47 D

The areas which suffered most in 1889 were—In Dinajpur, Nowaganj E. (30.94); Chintamon E. (28.64); Birganj E. (24.60); Thakurgaon E. (24.40); Dinajpur E. (24.32); Pirganj E. (23.24); Gangarampur E. (23.23); Kalyan E. (20.07); Dinajpur T. (23.58); Parbatipur E. (24.58); Ranmankoil E. (24.47); Hometabad E. (23.51); Banshilari E. (23.23); Patgram E. (22.67); Mohadehpur E. (21.00); Parsa E. (20.21), and Pathriola E. (19.88). In Rajshahi, Tanore E. (27.53); Nawganj E. (26.53); Manda E. (25.75); Benaulah E. (25.29); Buriganj E. (24.77); Bagmara E. (24.50); Godarari E. (23.98); Natore E. (22.65); Putes E. (22.15); Singra E. (21.59), and Panchpur E. (21.34). In Kumtore, Mahaganj E. (22.78); Kurnaganj E. (21.19); Sundorganj E. (20.72); Darwan E. (21.47); Govindganj E. (21.41), and Ullapara E. (21.34). In Bogra, Nowaganj E. (24.53); Sherepur E. (24.72); Pachamba E. (24.48); Selganj E. (21.90), and Uthuni E. (21.59). In Pahna, Rajganj E. (24.53); Uthamobur E. (21.38); Shahadpur E. (20.45); Sara E. (20.31), and Saraganj E. (20.18). In Darjiling, Phansidewah E. (31.56); Kamsong E. (27.64), and Darjiling T. (20.99). In Julpiguri, Salbari E. (30.93); Alipur E. (31.11); Kalranta E. (30.11); Silligori E. (28.07); Julpiguri E. (28.02); Mynaguri E. (27.64); Boda E. (26.40), and Patgram E. (21.86).

• Dacca Division.—(Population 8,705,916.)

DISTRICTS.	Percentage of Villages affected by Fever in—		Increase or decrease as compared with 1889.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.
	1889.	1888.		1889.	1888.	1884-88.	1889.	1888.	1884-88.				
Dacca ...	85.43	89.13	5.71 D	27,475	35,946	37,901	12.99	12.25	13.18	1,520 I	459 D	.73 I	.80 D
Faridpore ...	70.05	68.65	1.40 I	23,300	20,082	18,731	13.72	12.50	11.48	1,118 I	3,308 I	1.43 I	2.34 I
Backerganj ...	61.87	68.6	6.72 D	50,566	29,761	50,180	18.07	15.13	15.68	2,795 I	306 I	.94 I	.10 I
Mymensingh ...	29.90	59.91	35.41 D	4,598	45,038	35,590	14.50	15.05	11.64	2,030 D	8,318 I	.69 D	2.72 I
Total ...	48.40	68.34	19.90 D	124,929	120,727	112,418	14.28	13.87	12.91	3,002 I	11,911 I	.41 I	1.37 I

The areas which suffered most in 1889 were—In Faridpore, Helaakandi E. (34.43). In Backerganj, Golachipa E. (23.93) and Barhanudin E. (22.25). In Mymensingh, Pingua E. (18.05).

CHITTAGONG DIVISION.—(Population 3,467,474.)

DISTRICTS.	Percentage of Villages affected by Fever in—		Increase or decrease as compared with 1889.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Deaths as compared with 1889.	Increase or decrease of Deaths as compared with 1884-88.
	1889.	1888.		1889.	1888.	1884-88.	1889.	1888.	1884-88.				
Chittagong ...	76.99	70.79	5.90 I	10,800	16,768	13,761	17.40	14.51	12.15	2,044 I	3,048 I	2.63 I	5.34 I
Coxsbazar ...	75.30	71.49	3.81 I	21,154	15,745	14,288	22.77	20.40	17.97	4,409 I	3,306 I	5.37 I	3.46 I
Tippurah ...	71.94	60.77	5.17 I	22,797	16,013	17,754	15.05	10.53	11.73	3,784 I	3,043 I	4.28 I	3.53 I
Total ...	72.41	70.54	1.87 I	54,751	48,526	45,793	15.38	14.26	13.89	14,237 I	17,097 I	4.13 I	5.18 I

The areas which suffered most in 1889 were—In Chittagong, Paticohari E. (25.37) and Mirsrai E. (20.11). In Coxsbazar, Hata E. (25.20); Chakaria E. (20.78); Sudharam E. (27.25); Sundip E. (26.68); Namai E. (26.21); Fenny E. (25.23); Beganganj E. (24.28); Rangganj E. (23.50), and Lakshimpur E. (21.31).

PATNA DIVISION.—(Population 15,083,944.)

Districts	Percentages of Villages affected by Fever in—		Increase or decrease as compared with 1888.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Death-rates as compared with 1888.	Increase or decrease of Death-rates as compared with 1884-88.
	1888.	1889.		1888.	1889.	1884-88.	1888.	1889.	1884-88.				
Patna ...	77.46	70.98	8.48 I	20,740	24,081	26,451	16.87	13.70	45.08	5,659 I	3,309 I	3.27 I	1.89 I
Gya ...	79.69	78.51	3.18 I	45,891	45,171	44,021	21.21	22.07	20.71	2,880 D	1,370 D	1.88 D	1.88 D
Shahabad ...	90.80	92.12	1.32 D	40,203	36,399	40,379	30.46	30.05	30.40	803 I	77 D	1.40 I	1.40 I
Mosufferpore ...	78.74	83.04	4.30 D	20,031	27,503	24,135	11.63	10.65	9.34	2,565 I	5,565 I	1.98 I	2.28 I
Durbhanga ...	39.70	37.77	1.93 I	37,604	33,481	28,482	14.30	12.71	10.81	4,123 I	9,173 I	1.50 I	3.40 I
Sarun ...	47.73	46.74	.98 I	20,553	17,171	18,587	9.00	7.63	8.15	2,413 I	1,593 I	1.48 I	1.47 I
Chumpanun ...	56.71	53.01	3.70 I	19,732	23,970	23,224	11.46	13.86	13.48	4,144 D	3,493 D	2.40 D	2.08 D
Total ...	63.80	60.96	1.84 I	223,243	213,682	205,169	14.81	14.18	13.61	9,561 I	18,074 I	.63 I	1.90 I

The areas which suffered most in 1889 were—In Patna, Dinapore E. (40.45) and Barri E. (21.32). In Gya, Barachati E. (37.46); Arungabad E. (28.59), Nobinagar E. (25.32); Daudnagar E. (24.51); Gya E. (23.68); Daudnagar E. (23.60); Shergathi E. (23.18); Arwal E. (22.02); Gya T. (21.79), and Tokari E. (20.08). In Shahabad, Buxar E. (27.52); Kharhar E. (26.23); Mohania E. (25.63); Basseram E. (24.33); Dehren E. (24.20), Dhangan E. (22.62); Bhabua E. (21.70), and Piro E. (20.60). In Durbhanga, Khajowli E. (25.99). In Chumpanun, Bagaha E. (21.35).

BHAGULPORE DIVISION.—(Population 8,063,160.)

Districts.	Percentages of Villages affected by Fever in—		Increase or decrease as compared with 1888.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Death-rates as compared with 1888.	Increase or decrease of Death-rates as compared with 1884-88.
	1888.	1889.		1888.	1889.	1884-88.	1888.	1889.	1884-88.				
Monghyr ...	85.83	84.42	1.40 I	48,330	42,092	43,515	24.54	21.36	22.09	6,247 I	4,894 I	3.18 I	2.46 I
Bhagulpore ...	93.10	96.73	3.63 D	41,165	38,297	39,947	20.76	10.47	20.31	2,868 I	1,218 I	1.46 I	1.63 I
Purneah ...	97.00	99.08	2.08 D	38,056	40,568	35,116	20.69	21.95	18.99	2,493 D	2,980 I	1.36 D	1.90 I
Maldah ...	80.19	88.55	8.36 D	16,063	18,483	14,363	21.20	25.97	20.31	3,390 D	700 I	4.77 D	.90 I
Southal Pergunnahs	61.68	61.54	.05 I	20,706	17,763	19,895	13.30	11.32	12.36	2,943 I	1,311 I	1.88 I	1.64 I
Total ...	71.42	73.90	2.48 D	163,869	157,191	153,836	20.20	19.49	18.89	6,176 I	11,033 I	.77 I	1.37 I

The areas which suffered most in 1889 were—In Monghyr, Shaikpura T. (30.21); Monghyr E. (29.17); Tekra E. (27.64); Kharakpur E. (27.55); Surajgarh E. (27.46); Beguamra E. (24.84); Sekundra E. (24.78); Gogri E. (24.09); Shaikpura E. (21.77); and Chakal E. (21.01). In Bhagulpore, Behpur E. (28.48); Kolkong E. (26.31); Katuria E. (26.19); Bhagulpore E. (25.88); Banka E. (24.83); Sultanpur E. (23.78); Kiseanganj E. (22.24); and Pertabganj E. (20.01). In Purneah, Moihar E. (24.27); Kadwa E. (23.82); Kushi-Amour E. (23.41); Moihar E. (21.98); Kiseanganj E. (21.63); Kaliajan E. (21.63); Arraria E. (20.79); Raniganj E. (20.42); and Purneah E. (20.42). In Maldah, Ratua E. (27.02); Gajole E. (26.65); English Bazar T. (21.90); Gomastapur E. (21.36); Kharba K. (21.06); Nawabganj E. (20.82); and Shibganj E. (20.00).

ORISSA DIVISION.—(Population 3,628,832.)

Districts.	Percentages of Villages affected by Fever in—		Increase or decrease as compared with 1888.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Death-rates as compared with 1888.	Increase or decrease of Death-rates as compared with 1884-88.
	1888.	1889.		1888.	1889.	1884-88.	1888.	1889.	1884-88.				
Cuttack ...	85.81	52.51	3.30 I	20,061	16,526	15,815	11.40	9.20	8.81	4,135 I	4,946 I	2.30 I	2.36 I
Poori ...	37.27	33.07	4.00 I	3,443	2,071	2,908	3.87	3.00	3.20	772 I	540 I	.87 I	.91 I
Balasore ...	63.73	43.68	10.05 I	10,509	7,866	8,202	11.11	8.32	8.67	2,640 I	2,306 I	2.79 I	2.44 I
Total ...	50.23	48.47	1.76 I	34,012	27,065	26,920	9.53	7.45	7.41	7,547 I	7,892 I	2.08 I	2.12 I

Nil.

CHOTA NAGPORE DIVISION.—(Population 4,225,989.)

Districts.	Percentages of Villages affected by Fever in—		Increase or decrease as compared with 1888.	Deaths from Fever in—			Ratio per 1,000 of Population in—			Increase or decrease of Deaths as compared with 1888.	Increase or decrease of Deaths as compared with 1884-88.	Increase or decrease of Death-rates as compared with 1888.	Increase or decrease of Death-rates as compared with 1884-88.
	1888.	1889.		1888.	1889.	1884-88.	1888.	1889.	1884-88.				
Hazaribagh ...	67.79	68.90	1.11 D	23,029	26,873	20,777	20.84	24.32	18.80	3,844 D	2,262 I	5.48 D	2.04 I
Lohardugga ...	61.26	65.46	4.20 D	21,564	26,251	20,782	12.27	16.31	12.91	4,687 D	523 I	3.04 D	1.88 I
Manbhum ...	69.19	73.23	4.03 D	6,226	6,170	6,097	13.09	15.61	15.48	80 I	129 I	.08 I	1.11 I
Manbhum ...	70.79	59.89	10.90 I	15,435	14,654	12,275	14.87	13.84	11.59	771 I	3,180 I	.73 I	2.08 I
Total ...	66.61	68.80	2.19 I	66,044	73,954	59,931	15.02	17.49	14.18	7,310 D	6,113 I	1.87 D	1.44 I

The areas which suffered most in 1889 were—In Hazaribagh, Hunterganj E. (27.70); Simoria E. (26.97); Chuttra E. (25.27); Tandawa E. (23.80); Gowri E. (21.32); Dumurhi E. (21.22); Pachamba E. (20.86); Bagodhar E. (20.64); Ramghur E. (20.53); Huvabagh E. (20.46); and Jonewar E. (20.20). In Lohardugga, Daitongu E. (24.42); Hunterganj E. (20.11); Gurwah E. (23.80); Mohowadand E. (23.15); Patan E. (22.70), and Hossainabad E. (20.94). In Manbhum, Toondi E. (23.85).

PORT OF CALCUTTA.

	In 1889.			In 1888.			Increase or decrease of admission as compared with 1888.	Increase or decrease of deaths as compared with 1888.	Increase or decrease of death-rate as compared with 1888.
	Admission into hospital.	Deaths.	Ratio per mille.	Admission into hospital.	Deaths.	Ratio per mille.			
Fever, enteric	1	...	...	2	...	...	1 D	...	...
.. malarial	227	2	1.53	120	1	1.53	107 I	1 I	17 I
.. simple	79	...	...	82	...	...	8 D	3 D	133 D

Among the native floating population there were no deaths from enteric fever during the year under review, but 5 deaths from malarial and 8 from simple fever, of which 1 died in hospital. The death-rate is .50 per mille.

In 1888 there were 22 deaths, or .85 per mille, from malarial fever and none from enteric or simple fever.

BOWEL-COMPLAINTS.

42. Fifty-three thousand and seventy-nine deaths from this cause were registered in 1889, against 52,086 in 1888 and 55,612 the mean of the five years 1884—88. The prevalence of Bowel-complaints. ratios per 1,000 of the population which these figures bear to the population are .80, .78 and .84 respectively. The percentage of villages attacked was 9.56 in 1889, against 9.64 in 1888 and 10.19 the mean of the five years 1884—88. The following statement shows the comparative prevalence of the disease in urban and rural circles:—

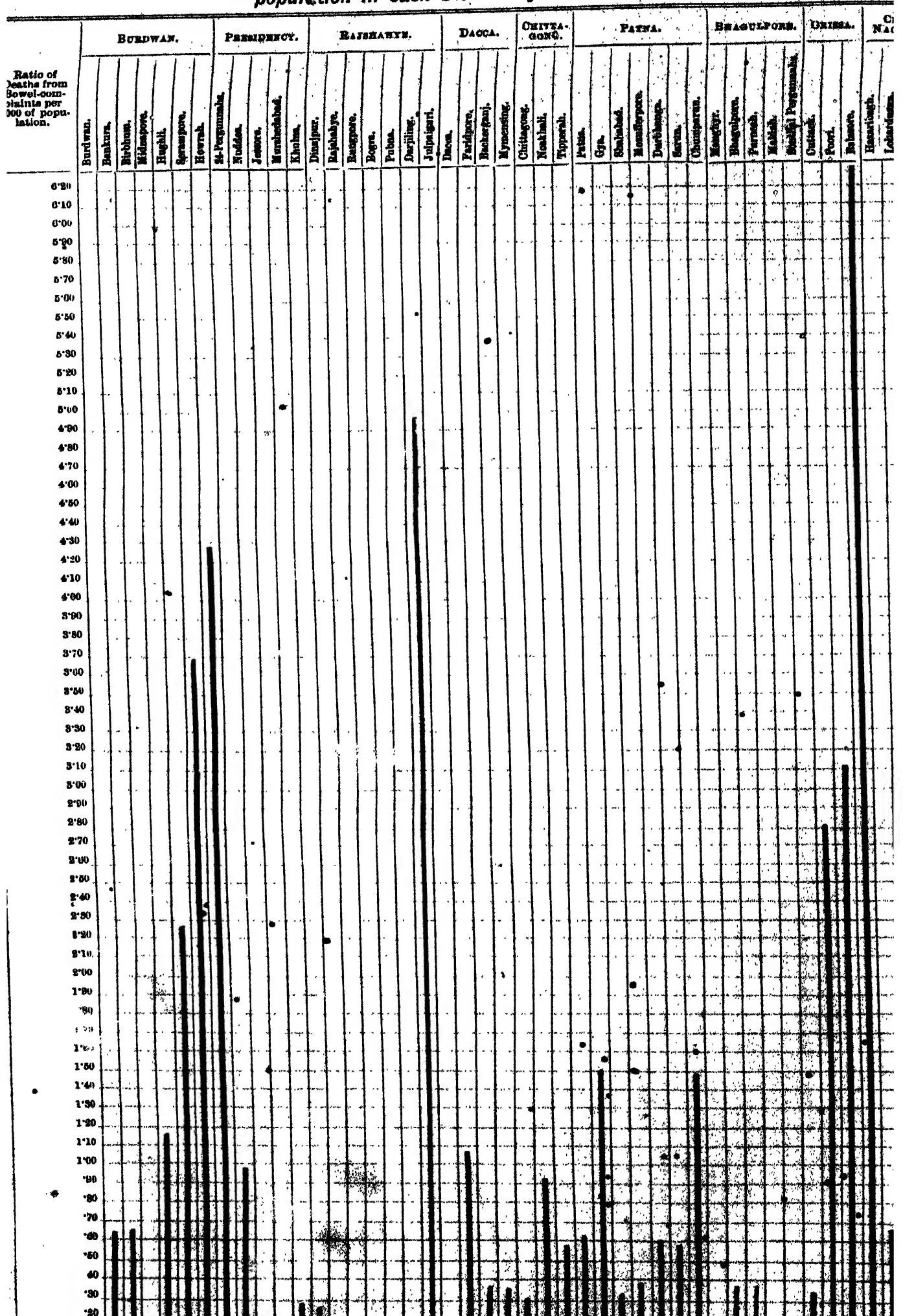
CIRCLES.	Number of deaths in—			Increase or decrease of deaths as compared with 1888.	Increase or decrease of deaths as compared with 1884—88.	Ratio per mille in —			Increase or decrease of death-rate as compared with 1888.	Increase or decrease of death-rate as compared with 1884—88.
	1889.	1888.	1884—88.			1889.	1888.	1884—88.		
Urban	6,699	7,164	6,649	465 D	50 I	8.05	7.97	8.03	.08 I	.06 I
Rural	46,380	44,922	48,963	1,458 I	2,583 D	.72	.70	.76	.02 I	.04 D

43. The seasonal incidence of the disease during the year under report is shown in the margin. The highest mortality occurred in the months of July, August, September, and December. As stated in last year's Report, there can be no doubt that the prevalence of bowel-complaints is prominently due to climatic influences acting on the poorer people, who for the most part sleep on the ground, wear wet and insufficient clothing, and drink impure water. It is also brought about by errors of diet and inordinate eating after partial starvation. The districts which suffered most from this disease during 1889 were Balasore (6.21 per mille), Darjiling (4.94), Howrah (4.23), Serampore (3.68), Poori (3.04), Cuttaek (2.72), Hughli (2.27), and Lohardugga (2.20), in the order in which they are named. These districts always seem to suffer more than any others from bowel-complaints. The following diagram shows the rate of mortality from this disease in the Province, district by district:—

Seasonal incidence of Bowel-complaint.

MONTHS.	Deaths.	MONTHS.	Deaths.
January	4,909	July	5,519
February	3,237	August	5,435
March	3,455	September	5,201
April	4,201	October	4,774
May	3,570	November	4,451
June	3,716	December	5,581

Diagram showing the death-rates during 1889 from BOWEL COMPLAINTS per 1,000 of population in each District of the Province.



44. The following statement shows the prevalence of bowel-complaints (dysentery and diarrhoea) among European seamen and the Native floating population in the Port of Calcutta during 1889 and 1888:—

EUROPEAN SEAMEN.						NATIVE FLOATING POPULATION.					
In 1889.			In 1888.			In 1889.			In 1888.		
Admission into hospital.	Deaths.	Ratio per 1,000 of population.	Admission into hospital.	Deaths.	Ratio per 1,000 of population.	Admission into hospital.	Deaths.	Ratio per 1,000 of population.	Admission into hospital.	Deaths.	Ratio per 1,000 of population.
203	6	3.69	140	6	3.96	11	9	.35	14	7	.26

INJURY.

45. The deaths from injury amounted to 30,724 in 1889, against 26,967 in 1888 and 27,261 the average of the five years 1884—88. The ratios per mille which these figures bear to the population are .46, .40, and .41 respectively.

The casualties from each class of injury stood as follows:—

PERIOD.	SUICIDE.				WOUNDS.		ACCIDENTS.		SNAKE-BITE OR KILLED BY WILD BEASTS.		
	Deaths.			Ratio per cent. to total deaths from injury.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	
	Male.	Female.	Total.								
In the year 1889	...	1,125	2,010	3,141	10.23	1,914	6.23	13,882	45.18	11,787	38.36
Ditto 1879—88	...	983	1,616	2,579	10.42	1,432	5.78	10,438	42.19	10,202	41.59

As usual, nearly half the total mortality from injury in 1889 was caused by accidents, nearly two-fifths by snakes and wild beasts, and a little more than one-tenth from suicide. As usual, also, the greater number of suicides were women.

OTHER CAUSES.

46. The registered mortality from diseases other than cholera, small-pox, fever, bowel-complaints, and injury amounted to 232,386 in 1889, against 226,942 in 1888 and 194,065 the average of the five years 1884—88. The ratios per mille which these figures bear to the population are 3.52, 3.43, and 2.94 respectively. The mortality under this head was thus higher in 1889 than in the two periods with which that year is compared. As no details are given in the district returns, I am unable to dilate on the probable causes of death included under the above common heading, which includes the mortality from all brain, lung, heart, liver, and kidney diseases, from scrofulous, tubercular, rheumatic, cancerous, and venereal affections, &c., &c.

47. In the Port of Calcutta, 9 European seamen were affected during 1889 with heat apoplexy and 4 died. In 1888, 22 men were affected and 8 died. The death-rate is 2.46 in 1889 and 5.39 in 1888 per 1,000 of the average strength. There were no deaths from scurvy. From other causes 21 European seamen died in 1889, against 24 in 1888, the death-rate being 12.91 and 15.88 respectively. Among the Native floating population 27 persons died from "other causes" in 1889, against 24 in 1888. The death-rate is 1.05 and .93 respectively.

SECTION VII.

GENERAL HISTORY OF VACCINATION.

48. No remarks are made under this section, as under the orders of the Government of India a separate triennial vaccination report for the three years 1887—90 is under preparation, and will shortly be submitted.

SECTION VIII.

SANITARY WORKS (MILITARY).

49. Under the orders of the Government of India, this section is not to be dealt with in Provincial Sanitary Reports.

SECTION IX.

SANITARY WORKS (CIVIL).

50. There were the same number of municipalities in Bengal during the

Income of municipalities, and the manner in which it was laid out.

Kharar in Midnapore, Dinapore and Khogal in Patna, Daltonganj, Ghorwah and Lohardugga in the Lohardugga district.

year under report as in the previous year, viz., 148. The total income of these municipalities, excluding the six named in the margin, which were newly constituted and returned no figures, amounted in 1888 to Rs. 32,91,448, including the balance of 1887. Of this income 41·33 per cent. was expended on sanitary works (original and recurring), 16·72 on roads, 1·70 on police, and 20·12 on other requirements. In the year under review the total income of the 148 municipalities, including the balance of 1888, amounted to Rs. 29,55,158, and they spent 43·34 per cent. of it on sanitary works (original and recurring), 14·87 on roads, 7·5 on police (these charges are incurred only in the Howrah and Cossipore-Chitpore Municipalities), and 18·92 on other requirements. The decrease in the total income of the municipalities is due to the amalgamation from the 1st April 1889 of the major portion of the Suburban Municipality, which was the largest and most wealthy municipality in Bengal, with the town of Calcutta.

The total sanitary expenditure incurred during 1889 and 1888 is compared in the margin, and shows

HEAD OF EXPENDITURE.	TOTAL EXPENDITURE.		DIFFERENCE OF 1889.	
	1889.	1888.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
On conservancy, including latrines, conservancy establishment	5,27,572	4,08,523	...	80,951
drainage	5,88,588	3,54,792	...	16,264
water-supply	1,28,163	90,491	...	6,848
disposal of dead	18,708	6,376	29,858	...
vaccination and slaughter-houses	9,286	5,740	7,432	...
treatment of the sick	23,026	17,455	4,575	...
other sanitary works	2,31,725	2,20,376	...	7,849
Total	13,81,051	13,09,553	...	72,522
On construction, maintenance and repair of roads.	4,39,709	5,60,536	...	1,10,817
Total including roads	17,20,740	19,11,079	...	1,90,389

paragraph. Deducting the figures of the amalgamated portion of the late Suburban Municipality from 1888, and adding to the figures of 1889 the expenditure of the six municipalities named above, and the figures of the municipalities of Cossipore-Chitpore and Manicktolla formed after the amalgamation of the suburbs with Calcutta, the total sanitary expenditure of mofussil municipalities

compared in the margin, and shows a decrease in 1889. But the figures of 1889 do not include the expenditure of the major and most wealthy portion of the late Suburban Municipality, which, exclusive of roads, amounted to Rs. 2,30,472, and inclusive of roads to Rs. 3,27,083. On the other hand, the figures of 1889 include a small expenditure of Rs. 3,205 exclusive of, and Rs. 5,177 inclusive of, roads of the six new municipalities named in the margin of the preceding

HEAD OF EXPENDITURE.	TOTAL EXPENDITURE.		DIFFERENCE OF 1889.	
	1889.	1888.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
On conservancy, including latrines	3,27,372	2,57,057	70,315	.....
.. conservancy establishment	3,38,668	2,28,033	1,10,635	.....
.. drainage	85,643	82,309	3,334	.....
.. water-supply	1,28,102	78,398	49,704	.....
.. disposal of dead	15,708	0,276	7,432	.....
.. market and slaughter-houses	9,625	8,740	785	.....
.. vaccination	22,699	14,433	7,266	.....
.. treatment of the sick	2,21,728	2,25,383	.....	3,655
.. other sanitary works	1,86,279	1,28,714	7,565	.....
Total	12,81,081	11,30,081	1,50,960	.....
On construction, maintenance and repair of roads.	4,58,709	4,53,015	.....	14,206
Total including roads	17,80,740	15,83,996	1,96,744	.....

during 1889 and 1888 is as shown in the margin. It will be seen that, whether inclusive or exclusive of roads, the expenditure of 1889 was in excess of that of 1888. It is very satisfactory to observe that there was an increase under every head of expenditure except "Treatment of the sick," which, although shown in municipal reports under the major head of "Public health," cannot properly be reckoned as a sanitary expenditure.

51. The following statement shows in order of sequence the percentages of income expended in each municipality in Bengal on original sanitary works, works of an annually-recurring nature, and municipal expenditure proper.

1889 is also shown side by side, though not in order of sequence:—

DISTRICTS.	MUNICIPALITIES.	Percentages on original sanitary works.	Percentages on sanitary works of an annually-recurring nature.	Percentages on all municipal expenditure proper.	DISTRICTS.	MUNICIPALITIES.	Percentages on original sanitary works.	Percentages on sanitary works of an annually-recurring nature.	Percentages on all municipal expenditure proper.	
Innarpore	1	65.68	NIL.	NIL.	24-Pergunnahs	76	Rajpore	8.71	53.20	17.75
Kerganj	2	38.44	18.80	28.77	Shahabad	77	Buxar	8.44	54.75	37.40.
Mensing	3	35.33	2.23	20.70	Midnapore	78	Ramjibnnpore	8.35	42.21	48.55
Ditto	4	31.15	20.09	37.21	Howrah	79	Howrah	8.27	60.37	20.70
rdwan	5	30.48	38.31	21.64	Nuddea	80	Nantipore	8.24	31.50	61.55
dnapore	6	27.30	26.94	27.67	24-Pergunnahs	81	North Barrackpore	8.15	53.47	10.36
ulna	7	27.15	38.63	18.98	Nuddea	82	Hurdwan	8.04	68.23	24.71
rneah	8	26.24	39.25	19.26	Monghyr	83	Monghyr	8.03	50.75	38.47
mensing	9	25.74	17.39	31.43	Hughli	84	Baidyabatti	8.00	24.49	40.28
ghli	10	25.36	31.05	32.33	Chumpran	85	Moshari	8.00	40.90	46.44
ldah	11	24.69	27.33	20.44	Monghyr	86	Lalbagh	8.00	42.81	12.60
ashedabad	12	24.30	45.00	27.61	Murshedabad	87	Nuddea	1.95	37.68	40.19
run	13	23.16	34.65	37.68	Nuddea	88	Chundrakona	1.82	27.70	36.41
zaribagh	14	22.91	42.78	22.34	Midnapore	89	Jajipore	1.82	47.44	44.52
ckerganj	15	22.68	25.56	30.77	Cuttack	90	Patna	1.67	37.25	40.34
tna	16	22.68	12.09	32.08	Patna	91	Sewan	1.57	24.82	24.82
ori	17	21.00	39.18	29.45	Baran	92	Kishnagar	1.53	75.97	12.28
ymensing	18	20.68	58.03	16.76	Nuddea	93	Nattore	1.51	37.56	51.53
najpur	19	20.02	35.19	50.12	Rajshahy	94	Jugdishpore	1.45	40.74	33.49
ymensing	20	19.45	43.95	34.66	Shahabad	95	Berhampore	1.39	64.98	22.48
ulna	21	19.27	53.88	20.73	Murshedabad	96	South Barrackpore	1.38	53.29	50.56
score	22	19.21	23.68	30.23	24-Pergunnahs	97	Cuttack	1.16	50.61	34.03
akhal	23	18.69	37.43	36.90	Cuttack	98	Sheerpur	1.08	51.50	65.12
Pergunnahs	24	17.09	42.80	34.23	Bohra	99	Hajipore	0.97	51.04	31.52
rdwan	25	16.96	32.56	32.00	Mozufferpore	100	Radunia	0.96	50.09	41.40
oca	26	16.54	51.92	14.89	24-Pergunnahs	101	Madura	0.92	45.01	32.44
nkura	27	16.52	44.72	18.74	Midnapore	102	Chakral	0.84	38.58	50.70
Pergunnahs	28	15.07	27.45	30.70	Ditto	103	Muktagacha	0.70	18.03	33.22
dnapore	29	15.02	63.48	21.48	Mymensing	104	Rangpore	0.64	50.50	27.69
uddea	30	14.65	36.80	33.84	Rangpore	105	Sasseram	0.63	44.52	40.09
ahahye	31	13.90	25.29	41.88	Shahabad	106	Chittagong	0.55	40.13	38.11
ghli	32	13.54	44.64	29.68	Chittagong	107	Kumarkhali	0.47	51.22	17.90
Pergunnahs	33	13.04	35.64	47.90	Nuddea	108	Mozufferpore	0.47	61.74	35.95
nthal Pergunnahs	34	12.96	30.90	19.25	Mozufferpore	109	English Bazar	0.45	51.38	23.90
Pergunnahs	35	12.65	64.18	19.14	Madura	110	Shahulpore	0.38	42.98	13.07
ckerganj	36	12.64	64.78	19.63	Chittagong	111	Hoochly	0.38	50.41	40.66
Pergunnahs	37	11.81	67.93	15.80	Hughli	112	Juniapore	0.27	64.45	24.66
humparun	38	11.27	28.00	50.00	Murshedabad	113	Dumhat	0.24	13.83	36.84
ona	39	11.26	50.63	19.15	Burdwan	114	Cutwa	0.24	5.27	1.02
Pergunnahs	40	11.20	56.67	22.69	Ditto	115	Assensole	0.21	44.69	47.74
ulna	41	11.23	30.76	41.66	Ditto	116	Boni	0.21	60.81	32.27
Pergunnahs	42	10.65	35.28	57.87	Birbhum	117	Jehanabad	0.21	54.63	30.02
haina	43	10.50	50.66	51.78	Hughli	118	Barasat	0.21	49.29	36.66
arjiling	44	10.51	48.57	33.08	24-Pergunnahs	119	Taki	0.21	39.30	56.91
ahna	45	9.72	46.79	30.49	Ditto	120	Gobardanga	0.21	76.12	10.90
oca	46	9.24	50.13	22.26	Ditto	121	Kasipore and Chittpore	0.21	37.74	25.33
ankura	47	9.21	8.5	33.08	Ditto	122	Rasachal	0.21	31.90	47.69
uridpore	48	8.78	22.73	30.83	Nuddea	123	Kustia	0.21	61.14	20.46
ozufferpore	49	8.78	23.16	54.14	Ditto	124	Julpauri	0.21	57.63	12.13
hababad	50	8.24	20.39	40.70	Ditto	125	Kanarpore	0.21	54.59	35.28
lowrah	51	7.98	34.43	49.90	Shahabad	126	Kazipore	0.21	62.55	36.72
4-Pergunnahs	52	7.62	45.72	45.10	Mymensing	127	Don's Bazar	0.21	56.55	31.16
chardugga	53	7.50	56.46	19.06	Chittagong	128	Comilla	0.21	54.89	43.19
uddea	54	7.41	68.32	23.00	Tipperah	129	Bach	0.21	54.79	20.86
Do.	55	6.91	38.23	21.80	Patna	130	Dinapore Nisamat	0.21	43.82	11.13
Faridpore	56	6.89	30.71	34.67	Do.	131	Khagawl	0.21	58.71	31.22
Salore	57	6.79	74.19	13.90	Do.	132	Gya	0.21	43.08	65.43
Mymensing	58	6.36	55.77	32.87	Gya	133	Mahua	0.21	42.26	13.70
Durbhanga	59	6.30	23.48	26.81	Shahabad	134	Sitamarhi	0.21	44.00	41.44
Ditto	60	6.74	40.87	31.34	Mozufferpore	135	Rosera	0.21	46.62	34.26
Hoochly	61	6.90	61.24	20.55	Dumkhar	136	Colepur	0.21	44.56	15.58
Sye	62	6.60	36.80	23.28	Rangulpore	137	Deokhar	0.21	58.31	34.90
Monghyr	63	6.45	43.37	24.77	South Pergunnahs	138	Kandarpore	0.21	57.15	24.50
Bohra	64	5.93	59.35	23.42	Cuttack	139	Lokarganj	0.21	30.38	54.14
Purneah	65	5.19	54.91	34.18	Howrah	140	Lohardugga	0.21	18.83	40.07
Tipperah	66	4.94	32.81	42.27	Lohardugga	141	Chyban	0.21	46.26	32.89
Bankura	67	4.83	55.16	27.69	Ditto	142	Patna	0.21	53.75	22.42
Darjiling	68	4.61	32.33	46.03	Singbhum	143	Jhalda	0.21	53.75	22.42
Barn	69	4.59	41.32	50.18	Manbhum	144	Boghanathpore	0.21	58.18	20.07
24-Pergunnahs	70	4.59	46.08	30.06	Ditto	145				
Hughli	71	4.59	46.08	30.06						
Khuma	72	4.59	46.08	30.06						
Shahabad	73	4.59	46.08	30.06						
	74	4.59	46.08	30.06						
	75	4.59	46.08	30.06						

Almost every municipality spent a fair proportion of its income on sanitary works of an annually-recurring nature and on municipal expenditure proper, but only the first 19 mentioned in the list can be considered to have spent a fair proportion of their income on original sanitary works. The next 25 spent a tolerably fair amount on this account, but the remainder a very insignificant sum. In 34 towns it will be seen nothing was spent under this head. Municipalities can have no excuse now for spending little or nothing on account of original sanitary works, for, under the recent orders of the Government of India, it is an easy matter for them to obtain loans from Government for the purpose of improving the sanitary condition of their towns.

52. In Appendix III will be found in detail the sanitary works and improvements which were carried out during the year under review in municipal towns, in the interior of districts, and by private individuals. The cost of the works is also stated. The list, however, is not complete, because in some cases the district reports from which it has been compiled do not furnish the required information. A perusal of the list will show at once the most important sanitary works completed and in progress during the year. I need not therefore repeat the information here. It will be seen that on the whole Municipal Commissioners are doing what they can to improve the sanitary condition of their towns; but although a good deal has been done and is being done, I am again compelled to remark that in many cases municipal income is wasted on temporary works and on works of minor importance, while works of a more needed, substantial and lasting nature, such as drainage, water-supply, and public latrines, are neglected. As regards latrines, I gave in last year's Report illustrations of three of the most suitable kinds I knew of for the mofussil towns, and I am glad to report that many municipalities have adopted my suggestion, and are constructing new latrines after the patterns of one of those plans. I now recommend the construction of public urinals, which many towns are very much in need of, after the plan of the urinals in Dacca, of which a sketch kindly prepared for me by Babu Jogendra Chandra Aich, C.E., Secretary and Engineer of the Dacca Municipality, is given on the opposite page. The Dacca public urinals are about the most suitable and the best I have seen in the course of my tours of inspection in Bengal.

53. In almost all the municipalities night-soil is now properly trenched in accordance with the instructions issued from this office on the subject.

54. There is nothing new to record under this head. Of the three methods of disposing of the dead practised in this country, viz., cremation, interment, and laying

within the walls of an open tower, called the Tower of Silence, cremation is without doubt the best, and has everything to recommend it, not only from an hygienic, but also from an economic point of view. Interment is a very insanitary method of disposing of the dead, and the Tower of Silence method is practised to a very small extent in Bengal—by the Parsee community only. It is not an insanitary method.

55. There has been a general improvement in the conservancy of the foreshore of the river Hooghly, some of the nuisances formerly complained of having been removed. Although the drain at King's Road, Howrah, still discharges into the river, yet it is more free from pollution than it formerly was, as measures have been taken by the Municipal Commissioners of Howrah to prevent offensive matter being thrown into the drain till the proposed scheme for draining the whole town is carried out. The nuisance at the jetties, which was formerly a subject of complaint, has been removed by providing an additional latrine within the jetty enclosure. The flushing inlets have also been free from offensive smell during the year. The highly objectionable outflow of liquid sewage from Fort William has received my personal attention, and I have every reason to hope that permanent good will result. A scheme for connecting the sewers of Fort William with those of the town has already been prepared, and the Government of India has been asked to have it carried out. The defects noticed in the previous year's Report, Regarding the state of Kassi Mitter's burning ghât, have been remedied by raising a wall on the riverside,

thus preventing the cremation of bodies being seen from the river; and last but not least the serious pollution of the water of the river at Chandernagore, which used to take place owing to the practice in that settlement of throwing the refuse of the town as well as the night-soil into the river, has been stopped. The refuse and night-soil of the town are now buried or otherwise disposed of in a satisfactory manner. There was a decrease during the year under review in the number of corpses found in the river, but I regret to state that the number of carcasses is still on the increase.

SECTION X.

PERSONAL PROCEEDINGS.

Officer in charge of Department.

56. I was in charge of the Department throughout the year.

57. I inspected 27 municipalities, in all, of which the most important are those named in the margin. On each of these I wrote inspection reports, copies of which will be found in Appendix IV. In the case of the others which are minor towns, I did not consider it necessary to write elaborate reports, but merely took and gave short notes in the course of my inspection, regarding the most important matters of sanitation. In almost all cases I was accompanied in my inspection by the Chairman or the Vice-Chairman and some of the Municipal Commissioners, with whom I discussed fully the sanitary condition and requirements of

Inspections made by the Sanitary Commissioner.

Names of towns.	Dates of visits.
1. Serampore...	12th, 13th, 14th, and 15th January.
2. Mozufferpore	23rd, 24th, 26th, 27th, and 28th January.
3. South Dum-Dum	17th, 18th, 19th, and 20th February.
4. Darjiling ...	The greater part of June.
5. Dacca ...	4th, 5th, 6th and 7th September.
6. Patna ...	24th, 25th, 26th, 27th, 28th, and 29th October.
7. Howrah ...	5th, 16th, 17th, 21st, 23rd, 28th, and 29th November.

their towns, and offered them the best advice I could. During the year under review I inspected the moats or chowkis in Nattore, which have long been notorious for their insanitary condition, and suggested a means of flushing them, which is being carried out to the satisfaction of the Nattore Rajah, to whom the moats belong, and the district officers. Towards the close of the year I made

Naihati, North Baraackpore, South Baraackpore, Baranagore, Cossipore and Chittpore, Manicktolla, South Dum-Dum, North Dum-Dum, and Baraset. } 3rd November and off and on subsequently, altogether for 20 days.

an important inspection of the drainage, water-supply, and conservancy arrangements of the group of municipalities noted in the margin, and suggested improvements which are now being discussed, and will probably be carried out shortly.

A copy of my report is included with the inspection reports of towns in Appendix IV.

58. In my capacity of Professor of Hygiene in the Medical College I delivered 20 lectures to 45 students, and also conducted the usual test and honour examinations.

Lecture on Hygiene.

Special reports submitted to Government, and important circulars.

59. During the year under review I submitted special reports to Government on the following subjects:—

- (1) regarding the outbreak of cholera (1) in Dr. Smith's family at Kurseong and (2) in the Darjeeling hills generally;
- (2) regarding the amalgamation of the Sonthal Pergunnahs Circle with the Darjiling Circle of Vaccination;
- (3) regarding the flushing of the moats in the town of Nattore;
- (4) regarding the establishment of animal vaccine depôt at Darjiling;
- (5) regarding the proposed Bill to provide for the isolation of lepers and the amelioration of their condition;

and several other reports of minor importance, which it is not necessary to mention specially.

The important circulars issued by me during the year will be found in Appendix VI.

60. Dr. Vincent Richards was in charge of the Port of Calcutta from the

Work of the Health Officer of the Port of Calcutta.

beginning of the year up to the 14th September, when, on account of serious illness, to which he succumbed in a few days, he was temporarily relieved by Dr. G. Jameson, Resident Surgeon of the Medical College, who performed the duties of the Health Officer of the Port in addition to his

own duties up to the 11th November, on which date he made over charge to Dr. R. MacLeod, the permanent incumbent appointed by Government. During the year under report 1,443 vessels were inspected, against 1,464 in 1888. The reduction in the number of vessels inspected is unimportant. I take this opportunity of expressing my deep regret at the untimely death of Dr. Richards, in whom the Government has lost a zealous, energetic, and efficient officer. Dr. MacLeod and the Sanitary Inspector, Baboo Nunda Lall Halidar, both performed their duties to my entire satisfaction.

Work of the Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination in connection with their sanitary duties,

61. The number of towns and villages visited by each Deputy Sanitary Commissioner and each Deputy Superintendent of Vaccination in connection with their sanitary duties is contrasted with the outturn of last year's work in the following table:—

Circle.	Superintendents.	Deputy Superintendents.	NUMBER OF TOWNS AND VILLAGES IN HIS JURISDICTION (TAKEN FROM THE MAGISTRATES' REPORTS).			NUMBER OF TOWNS AND VILLAGES VISITED.						REMARKS.
			Towns.	Villages.	Total.	1889-90.			1888-89.			
						Towns.	Villages.	Total.	Towns.	Villages.	Total.	
METROPOLITAN CIRCLE.	K. P. Gupta ...	.....	54	50,733	50,787	31	454	485	18	507	520	
	1st Metropolitan Circle.	U. O. Ghose ...	23	12,775	12,797	10	461	471	16	658	674	
	2nd Metropolitan Circle.	P. N. Mitter...	11	9,938	9,947	8	677	685	...	646	646	
	3rd Metropolitan Circle.	H. C. Sen ...	13	7,696	7,700	8	472	480	9	396	396	
	4th Metropolitan Circle.	A. T. Law ...	8	20,326	20,334	6	601	607	...	714	714	
DARJILING CIRCLE.	L. A. Waddell...	.....	10	52,327	52,337	7	507	514	6	305	311	
	Tajmool Hossein.		4	17,008	17,012	...	398	398	...	311	311	
	R. C. Moennadar.		3	19,817	19,850	2	205	207	{ ...	47	47	By Chooni Lall Dass. He was appointed during the year in October.
	S. P. Dass (now).		2	14,777	14,779	...	340	340	{ ...	80	80	
	N. N. Gupta ...	.....	15	41,452	41,467	7	298	305	3	278	281	
EASTERN BENGAL CIRCLE.		Satya Hari Chatterjee (new).	12	30,917	30,929	...	135	135	...	...	...	A new appointment (from January 1890).
		Bejoy Mukerjee.	3	10,535	10,538	2	248	250	...	455	455	The work of 1888-89 was performed by D. D. Roy, retired.
BISHAR CIRCLE.	M. N. Sen ...	.....	11	25,437	25,469	10	444	454	1	344	345	
		Nitya Prosad Bhattacharjee (new).	10	17,723	17,734	5	279	284	7	322	329	The work of 1888-89 was performed by B. C. Chuckerbutty, who was transferred to Orissa in December to act for Mr. P. Vuriah Naidu, on leave.
RANCHI CIRCLE.	J. J. Wood ...	.....	5	24,063	24,069	2	86	88	2	42	44	
		H. O. Dey ...	2	8,476	8,478	2	373	375	...	175	175	
		A. C. Chuckerbutty.	3	15,587	15,591	3	407	500	1	523	523	
ORISSA CIRCLE.	Mr. P. Vuriah Naidu up to 20th December 1889.						223	222				
	B. C. Chuckerbutty from 21st December 1889.	.....	2	20,381	20,383	...	240	240	...	751	751	

Of the Deputy Sanitary Commissioners, Dr. Waddell, it will be seen, performed the largest number of inspections and Dr. Wood the smallest number. The latter's record of work, I regret to say, is very inadequate. Of the Deputy Superintendents of Vaccination, Assistant Surgeon P. N. Mitter of the 2nd Metropolitan Circle performed the largest number of inspections, and Assistant Surgeon Satya Hari Chatterjee, of the Eastern Bengal Circle, the smallest number, but this officer's appointment under this Department only dates from January last, when more than half the working season was over, so that he is not to blame for the small amount of work shown against his name.

All the superior officers of the Department were careful in the course of their inspections of villages to point out to villagers the chief sanitary defects they observed and the way in which they could most easily and inexpensively be remedied. A very good and simple pamphlet entitled "A few simple hints on the Way to Health and general sanitation of villages in Bengal," written by Dr. Gupta, Deputy Sanitary Commissioner, Metropolitan Circle, was purchased by Government and distributed free to village punchayets and other headmen.

62. As usual, the sanitary condition of the towns and villages visited by Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination was reported to this office, but as the information furnished is more or less the same as that already published in previous reports, I have included in Appendix V of this Report the sanitary condition of those towns and villages only which have not been published before. My office copy of the statements published with the annual reports of this Department for 1887 and 1888 has, however, been corrected and brought up to date, and when the remaining towns and villages of the Province have been inspected, the entire list will be reprinted and published with the annual report of the year. The complete list will be of very great help to the Sanitary Board which has been constituted, but has not yet done any practical work, because the Sanitary Engineer, who is to be a member of the Board, has not yet been appointed, and nothing can be done until he is appointed.

63. With one or two exceptions, the conduct of all the officers of this Department was good and their work creditable. Dr. Gupta, Dr. Waddell, and Assistant Surgeon Norendro Nath Gupta, Deputy Sanitary Commissioners of the Metropolitan, Darjiling, and Eastern Bengal Circles, respectively, and Mr. Price, my Personal Assistant, deserve special mention for the valuable help they afforded me in carrying on the work of this Department during the year, and for the excellent work they all did in the cause of sanitation. The Head Assistant of my office, Baboo Bidhoo Bhusan Sinha Roy, has also conducted his duties to my entire satisfaction, and the clerks generally have behaved and worked well.

W. H. GREGG, M.B., M.R.C.P., LOND.,

The 2nd June 1890.

DIP. PUBLIC HEALTH, CAMB.,

Sanitary Commissioner for Bengal.

APPENDIX No. I.



VITAL STATISTICS OF THE DISTRICTS OF BENGAL

FOR THE YEAR 1889.

ANNUAL FORM NO. I.—BIRTHS registered in the Municipalities and Towns in the Districts of the Bengal Province during the year 1889.

1 DISTRICTS.	2 Number.	3 MUNICIPALITIES AND TOWNS.	4 Population according to Census of 1881.	5 NUMBER OF BIRTHS REGISTERED.			6 RATIO OF BIRTHS PER 1,000 OF POPULATION.			7 Number of males born to every 100 females born.	8 Excess of Births over Deaths per 1,000 of Population.	9 Excess of Deaths over Births per 1,000 of Population.
				Male.	Female.	Total.	Male.	Female.	Total.			
Burdwan	1	Burdwan	34,080	418	398	816	12.20	11.67	11.93	105	...	5.93
	2	Raniganj	10,987	128	130	258	11.76	11.88	11.82	98	...	10.99
	3	Assensole	4,268	58	28	86	13.58	6.38	10.00	252	...	12.42
	4	Kalna	10,901	105	78	183	9.63	6.99	8.31	145	...	5.78
	5	Cutwa	6,820	101	73	174	14.80	10.70	12.75	138	...	18.63
Bankura	6	Dalihat	5,789	72	70	142	12.43	12.09	12.26	108	...	11.28
	7	Bankura	17,805	243	218	461	13.57	11.96	12.76	114	...	1.92
	8	Hasepur	18,863	211	181	392	11.18	9.59	10.38	116	4.68	...
Birbham	9	Sonamukhi	6,590	46	47	93	8.23	8.40	8.31	98	...	4.21
	10	Soori	7,848	69	60	129	8.79	7.64	8.21	118	...	5.78
	11	Midnapore	35,560	297	241	538	8.55	7.18	7.86	119	...	...
Midnapore	12	Ghatal	12,638	201	187	388	15.90	12.49	14.19	132	10.36	...
	13	Tamluk	6,044	90	69	159	14.80	11.41	13.10	130	2.81	...
	14	Chundrakona	12,287	108	142	250	18.70	12.07	15.38	113	3.02	...
	15	Khirpai	6,296	77	69	146	12.23	10.96	11.59	111	...	4.18
	16	Ramjibanpur	10,909	108	181	289	18.16	18.59	18.37	109	14.76	...
Hughli including Serampore	17	Hughli	31,697	508	493	1,001	16.09	15.53	15.81	103	...	...
	18	Hansbaria	7,031	80	83	163	11.37	11.88	11.62	97	...	13.61
	19	Johannabad	10,507	93	80	173	8.85	8.47	8.66	104	...	3.04
	20	Serampore	26,406	623	423	1,046	19.77	15.88	17.82	124	...	10.42
	21	Uttarpore	5,510	91	67	158	16.51	12.15	14.33	148	...	12.70
Howrah	22	Baidyabati	14,718	161	130	291	10.93	8.83	9.88	123	...	1.96
	23	Kutrung	5,747	68	61	129	11.83	10.61	11.22	111	...	14.10
	24	Bhadresar	8,941	76	67	143	8.00	7.46	7.73	113	...	27.16
	25	Howrah	90,418	1,141	967	2,108	12.56	10.64	11.60	117	50	...
	26	Rail	14,815	163	147	310	11.00	9.92	10.46	110	...	1.48
24-Pergunnahs	27	South Suburban	51,058	203	181	384	3.96	3.50	3.73	113	...	3.73
	28	Baranagore	28,082	217	205	422	10.87	9.83	10.35	107	...	16.44
	29	Rajpore	10,576	180	148	328	17.87	13.99	15.93	128	...	3.31
	30	Baripore	8,748	39	28	67	10.42	6.14	8.28	170	...	16.67
	31	Joy nagore	7,085	98	84	182	13.78	10.83	12.30	117	5.73	...
Nuddea	32	South Dum-Dum	9,006	182	137	319	18.85	13.83	16.34	118	...	2.48
	33	North ditto	5,201	70	65	135	13.48	12.49	12.98	122	...	5.19
	34	South Barrackpore	22,730	247	201	448	10.86	8.88	9.87	123	...	8.97
	35	North ditto	18,018	202	230	432	11.54	12.21	11.87	119	...	6.71
	36	Naihati	21,638	247	228	475	16.11	13.56	14.83	118	...	...
Jessore	37	Baraset	10,533	125	100	225	11.86	10.06	10.96	118	2.95	1.63
	38	Baduria	19,135	78	58	136	3.81	3.03	3.42	126	...	...
	39	Besirhat	20,460	166	151	317	8.11	7.38	7.74	110	1.18	...
	40	Taki	5,120	21	23	44	4.10	4.49	4.29	91	...	...
	41	Gobardanga	6,154	12	11	23	1.94	1.78	1.86	102	...	...
Murshedabad	42	Chitpore-Consipore	26,394	158	140	298	6.00	5.32	5.66	113	...	...
	43	Manicktollah	28,848	217	183	400	7.87	6.88	7.37	119	...	...
	44	Kishnaghur	27,477	304	231	535	11.06	8.62	9.84	128	3.31	...
	45	Nuddea	14,105	77	61	138	6.46	4.32	5.39	128	...	...
	46	Ranaghat	8,043	52	44	96	6.48	5.06	5.77	118	...	...
Jessore	47	Birnagore	4,921	28	10	38	6.47	2.81	4.64	980	...	...
	48	Sentipore	20,087	301	254	555	10.13	8.68	9.40	117	6.94	...
	49	Kushia	9,717	172	135	307	17.70	13.89	15.79	128	10.29	...
	50	Kumerkhali	6,041	95	87	182	15.72	14.40	15.06	109	18.08	...
	51	Meherpore	5,731	44	46	90	7.37	8.02	7.69	85	5.40	...
Murshedabad	52	Jessore	8,495	77	68	145	9.06	7.65	8.35	118	...	11.77
	53	Mohespore	3,106	68	53	121	18.87	18.08	18.47	108	11.50	...
	54	Berhampore	23,605	231	215	446	9.78	9.10	9.44	107	...	5.50
	55	City Murshedabad	30,231	619	553	1,172	15.77	14.49	15.13	111	...	8.03
	56	Jungipore	10,187	31	32	63	3.04	3.63	3.33	83	...	16.80
Khulna	57	Kandi	10,461	51	52	103	4.78	5.00	4.89	189	...	11.10
	58	Khulna	6,292	125	116	241	19.86	18.43	19.14	107	10.40	...
	59	Satkhira	3,738	68	48	116	7.78	5.40	6.59	141	...	3.66
	60	Chanduria	2,445	18	20	38	5.23	5.80	5.51	90	...	9.87
	61	Chanduria	5,814	91	85	176	15.50	15.41	15.45	107	5.96	10.18
Dinajpur	62	Dinajpur	12,660	145	147	292	11.54	11.70	11.62	98	...	...
	63	Rangpore	19,791	389	322	711	19.65	16.27	17.96	120	6.42	...
	64	Rangpore Beaulah	13,820	187	181	368	14.08	13.68	13.88	103	...	19.67
	65	Bogra	6,179	76	63	139	12.29	10.19	11.24	120	5.40	...
	66	Bogra	3,967	54	50	104	13.61	14.87	14.24	91	1.76	...
Dacca	67	Pubna	15,207	328	333	661	21.48	21.81	21.64	98	15.20	...
	68	Sherajganj	21,037	273	234	507	12.92	10.84	11.88	121	6.99	...
	69	Darjiling	7,018	101	94	195	14.39	13.39	13.89	107	...	6.85
	70	Kurseong	4,033	54	53	107	13.59	13.14	13.36	101	...	8.92
	71	Dacca	90,161	708	652	1,360	8.58	8.18	8.38	117	...	4.65
Faridpore	72	Narsinganj	12,561	225	185	410	17.99	15.62	16.80	115	...	...
	73	Faridpore	10,263	133	95	228	12.86	9.26	11.06	118	3.21	...
	74	Madaripur	12,298	165	130	295	13.41	10.57	11.99	126	11.23	...
	75	Barisal	13,186	60	53	113	3.79	4.01	3.90	94	...	14.03
	76	Jhalakati	2,686	6	4	10	2.23	1.48	1.85	150	...	6.08
Backerganj	77	Nalchiti	2,800	13	11	24	4.64	3.92	4.28	113	...	...
	78	Porosapur	3,005	69	54	123	22.96	17.97	20.46	127	...	19.04
	79	Nasirabad	10,561	27	24	51	2.55	2.27	2.41	112	...	...
	80	Tangal	18,124	69	66	135	3.80	3.64	3.72	104	3.00	...
	81	Muktasacha	4,298	11	8	19	2.56	1.85	2.20	980	...	...
Mymensing	82	Jamalpur	16,091	247	218	465	15.35	13.54	14.44	113	...	...
	83	Sherpur	8,710	150	113	263	17.22	12.97	15.09	120	...	...
	84	Kishoreganj	12,898	53	63	116	4.10	4.88	4.53	94	...	1.94
	85	Basitpur	4,641	48	43	91	10.34	9.06	9.70	114	...	2.28
	86	Chittagong	22,130	141	135	276	6.37	6.14	6.25	103	...	3.75
Noakhali	87	Cox's Bazar	4,363	22	24	46	5.04	5.50	5.27	81	...	7.41
	88	Sudharam	3,134	31	32	63	6.04	4.29	5.16	140	...	...
	89	Cumilla	12,806	245	236	481	19.17	17.47	18.32	87	...	...
	90	Brahmanberia	17,543	291	294	585	16.88	16.75	16.81	128	10.23	...
	91	Patna	180,237	1,192	889	2,081	7.48	6.54	7.01	107	...	3.00
Gya	92	Barh	25,610	254	237	491	10.75	10.03	10.39	107	...	...
	93	Behar	48,971	581	588	1,169	11.96	11.96	11.96	97	6.72	...
	94	Gya	76,121	886	888	1,774	11.87	11.96	11.91	98	...	...
	95	Nowada	4,812	52	58	110	10.80	11.01	10.90	118	...	...
	96	Jehanabad	5,268	94	79	173	17.78	14.94	16.36	101	...	19.42
Arungabad	97	Arungabad	7,310	86	55	141	7.78	7.63	7.70	...	...	...

ANNUAL FORM No. I.—BIRTHS registered in the Municipalities and Towns in the Districts of the Bengal Province during the year 1889—concluded.

1	2	3	4	5	6	7	8	9				
DISTRICTS.	Number.	MUNICIPALITIES AND TOWNS.	Population according to Census of 1881.	NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females born.	Excess of Births over Deaths per 1,000 of Population.	Excess of Deaths over Births per 1,000 of Population.
				Male.	Female.	Total.	Male.	Female.	Total.			
Shahabad	98	Arrah	45,465	560	506	1,075	13.09	11.04	24.73	112	2.95	.....
	99	Buxar	17,668	199	131	260	7.30	7.41	14.71	98	.....	8.98
	100	Dumraon	17,835	238	230	468	13.34	12.89	26.24	103	.....	2.01
	101	Jagdispur	12,591	183	175	358	14.54	13.90	28.45	104	9.22	.....
	102	Sasaram	21,518	375	345	720	17.18	15.81	33.00	108	.....	18.69
Mozufferpore	103	Bhabua	5,728	97	80	177	16.93	13.96	30.90	101	.....	16.76
	104	Mozufferpore	42,742	453	414	867	10.59	9.98	20.28	109	.....	54
	105	Hajipore	25,695	318	239	557	12.37	9.30	21.67	120	1.90	...
	106	Sitamarhi	6,135	125	135	260	20.40	22.04	42.44	98	10.28	...
	107	Lalgañj	16,783	214	164	398	13.94	9.77	23.71	143	.....	1.97
Durbhanga	108	Durbhanga	66,006	1,174	1,024	2,198	17.78	15.40	33.55	114	5.19	...
	109	Madhubani	11,911	310	312	622	26.02	26.19	52.23	99	16.29	...
	110	Rosemah	11,578	157	133	290	13.56	11.48	25.04	118	1.81	...
	111	Chupra	51,670	604	609	1,363	13.43	12.94	26.37	104	4.78	...
	112	Sewan	15,319	258	242	480	17.66	15.16	36.03	98	11.86	...
Chumpan	113	Revilgañj	12,493	195	187	382	15.80	14.96	30.67	104	.....	...
	114	Rettiah	21,263	405	402	807	18.04	18.90	37.95	100	8.14	...
	115	Motibari	10,407	163	139	307	16.29	13.48	29.78	120	8.20	...
	116	Monghyr	57,520	1,033	908	1,941	17.96	15.78	33.74	113	3.25	...
	117	Jamalpur	13,563	332	288	620	24.47	21.23	45.71	115	7.15	...
Monghyr	118	Rurha	7,904	88	83	180	12.39	10.37	22.77	119	.....	38.53
	119	Shaikpura	12,517	157	143	300	12.54	11.42	23.96	109	.....	12.79
	120	Jamcoi	5,345	89	96	185	10.63	11.36	21.90	94	.....	48
	121	Bhawalpur	57,453	878	764	1,642	15.28	13.29	28.67	114	8.09	...
	122	Purneah	16,016	167	95	232	9.12	6.92	15.45	140	.....	14.85
Maldah	123	Maldah	4,604	72	64	136	15.33	13.63	28.97	112	.....	1.06
	124	English Bazar	12,430	193	187	385	15.62	15.04	30.97	105	.....	4.40
	125	Dumka	2,075	48	43	91	23.13	20.72	43.15	111	.....	2.89
	126	Shahalganj	6,512	68	54	124	10.44	8.69	19.04	121	.....	38.23
	127	Rajmahal	3,339	85	45	100	14.39	11.74	26.04	122	.....	8.85
Sonthal Pergunnahs	128	Deoghur	8,005	61	45	96	7.64	6.74	14.38	135	.....	13.79
	129	Cuttack	43,239	390	331	771	9.01	8.61	17.83	103	.....	2.19
	130	Kandrapara	15,000	206	283	489	16.94	18.03	34.97	94	2.90	...
	131	Jajpur	11,233	162	136	298	14.42	12.10	26.62	119	.....	5.08
	132	Poori	21,784	314	275	593	12.83	11.09	23.92	113	.....	47.57
Hazaribagh	133	Hazaribagh	15,306	254	274	528	16.59	17.90	34.49	92	2.15	...
	134	Chattra	11,900	199	187	386	16.73	15.71	32.43	100	1.17	...
	135	Ranchi	18,443	177	147	324	9.50	7.97	17.66	120	.....	10.58
	136	Chybassa	6,000	67	88	95	9.49	6.32	15.81	150	.....	12.16
	137	Purulia	9,304	162	125	287	17.41	13.43	30.84	129	.....	18.70
TOTAL FOR THE PROVINCE ...			2,422,904	29,218	25,948	55,166	12.05	10.76	22.76	112	...	3.18

OFFICE OF THE SANTY. COMM. FOR BENGAL,
The 24th May 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,
Sanitary Commissioner for Bengal.

ANNUAL FORM No. II.—Deaths registered in the DISTRICTS of the Bengal Province during the year 1889.

1	2	3	4	5	6	7	8	9						
Number.	DISTRICTS.	Population according to Census of 1881.	Area in square miles.	Average Population per square mile.	NUMBER OF DEATHS REGISTERED.			Number of males died in every 100 deaths of female.	RATIO OF DEATHS PER 1,000 OF POPULATION.			MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.		
					Male.	Female.	Total.		Male.	Female.	Total.	Male.	Female.	Total.
Burdwan Division.														
1	Burdwan	1,391,823	2,697	516.06	17,906	16,013	33,919	121	26.79	22.13	24.36	21.27	19.78	21.91
2	Bankura	1,041,752	2,621	397.46	11,800	9,911	21,711	125	23.26	18.53	20.84	19.54	15.74	17.60
3	Birbhum	794,428	1,756	452.40	11,223	10,515	21,738	115	29.41	25.46	27.36	27.34	23.98	25.38
4	Midnapore	2,515,565	5,082	494.89	30,632	27,007	58,299	118	24.63	21.74	23.17	22.94	19.99	21.45
5	Hughli	6,80,050	880	773.40	8,718	7,005	15,623	121	27.61	22.75	25.07	24.08	20.26	22.08
6	Serampore	351,956	343	1,026.11	5,184	4,611	9,795	114	29.70	25.96	27.83	22.43	18.57	20.43
	Total of Hughli, including Serampore ...	1,015,005	1,223	829.03	18,902	12,516	31,418	119	28.37	23.84	26.02	23.49	19.59	21.53
7	Howrah	636,381	476	1,334.83	8,335	6,772	15,107	124	26.33	21.23	23.77	22.76	18.40	20.57
Presidency Division.														
8	24-Pergunnahs	1,678,362	2,097	771.78	18,089	14,464	32,553	118	21.01	17.82	19.46	21.32	18.56	19.98
9	Nuddoa	1,655,721	2,735	600.98	19,688	16,437	36,125	126	24.43	19.33	21.81	24.47	27.07	30.67
10	Jessore	1,839,376	2,925	633.03	27,081	23,597	50,678	117	28.23	24.08	26.15	26.55	21.61	23.85
11	Murshidabad	1,628,790	2,144	752.20	17,258	14,865	32,123	127	20.42	23.21	21.78	28.40	22.23	25.21
12	Khulna	1,079,948	2,077	519.98	14,185	12,833	27,008	60	24.95	25.06	25.00	23.55	24.08	23.77
Rajshahye Division.														
13	Dinajpur	1,514,346	4,118	367.74	22,944	19,625	42,569	109	20.32	26.80	28.11	27.44	23.18	25.86
14	Rajshahye	1,339,003	2,361	566.08	18,471	16,079	34,550	118	27.95	23.08	25.79	33.74	27.83	30.73
15	Runkpore	2,097,604	3,484	601.83	27,750	22,924	50,674	116	25.96	23.25	24.15	23.71	24.70	26.74
16	Bogra	733,393	1,408	520.25	9,147	8,110	17,258	109	24.57	22.47	23.54	28.24	24.60	26.60
17	Pubna	1,841,728	1,847	710.19	15,843	12,613	28,456	128	24.43	19.02	21.70	31.80	25.28	28.55
18	Darjiling	155,643	1,234	126.53	3,195	2,439	5,634	97	36.75	36.79	36.19	24.45	24.11	24.31
19	Jaipalguri	582,390	2,814	207.05	10,373	8,966	19,339	104	33.90	32.43	33.20	30.60	27.95	29.34
Dacca Division.														
20	Dacca	2,116,350	2,797	756.65	24,326	20,448	44,774	124	23.52	18.88	21.15	33.10	19.06	21.04
21	Faridpore	1,631,734	2,247	719.78	18,784	15,410	34,194	125	23.47	18.76	20.95	18.68	14.98	16.70
22	Backerganj	1,900,889	3,649	520.03	30,587	27,742	58,329	104	31.36	29.91	30.65	27.61	27.41	27.51
23	Mymensing	3,056,943	6,287	486.44	32,291	26,191	58,482	119	20.75	17.44	19.13	17.61	14.78	16.22
Chittagong Division.														
24	Chittagong	1,132,341	2,567	441.11	12,201	11,820	24,021	116	22.94	19.67	21.21	18.74	15.29	16.86
25	Noakhali	820,772	1,641	500.17	18,316	12,910	31,226	100	32.00	31.53	31.95	22.45	22.53	22.53
26	Tipperah	1,514,361	2,491	609.93	19,418	16,540	35,958	113	25.26	22.17	23.74	19.69	17.08	18.67
Patna Division.														
27	Patna	1,751,550	2,079	842.05	22,688	21,000	43,688	113	26.60	23.46	25.04	26.28	22.73	24.46
28	Gya	2,124,682	4,712	450.91	29,154	27,530	56,684	109	27.94	25.16	26.67	29.47	26.72	28.07
29	Shahabad	1,064,909	4,365	243.15	23,070	24,631	47,701	121	29.64	24.27	26.92	29.46	24.03	27.14
30	Mosufferpore	2,582,060	3,003	859.83	23,011	18,369	41,379	130	18.18	15.94	16.02	16.84	12.47	14.61
31	Burhanpore	2,638,447	5,335	768.64	25,728	21,621	47,349	122	19.85	16.16	17.97	16.35	15.11	14.70
32	Saran	2,285,879	2,822	809.71	25,417	20,500	45,917	127	23.40	17.08	20.06	24.05	17.23	20.47
33	Chumpanan	1,721,608	3,531	487.67	15,731	13,004	28,735	118	18.06	15.23	16.69	24.63	20.56	23.62
Bhagulpore Division.														
34	Moukhyr	1,969,774	3,921	501.37	21,354	28,938	50,292	111	28.35	28.91	30.69	30.10	26.16	28.09
35	Bhagulpore	1,966,155	4,213	466.67	28,390	24,728	53,118	116	29.00	25.08	27.01	23.32	24.80	26.45
36	Purneah	1,848,687	4,950	373.02	31,615	28,852	60,467	118	33.73	28.35	31.08	22.64	18.68	20.89
37	Maldah	710,448	1,891	375.70	9,740	7,693	17,433	132	28.09	21.16	24.53	27.71	20.58	24.06
38	Bonthal Pergunnahs ...	1,668,993	3,450	483.41	15,907	11,950	27,857	133	20.25	15.36	17.76	17.33	13.54	15.30
Orissa Division.														
39	Cuttack	1,795,061	3,653	491.09	27,988	26,425	54,413	110	31.88	28.80	30.31	21.74	19.80	20.75
40	Poori	888,467	2,473	359.27	21,307	18,874	40,181	111	47.70	42.71	45.23	25.47	24.43	24.56
41	Balasore	945,280	3,068	308.54	10,013	17,592	27,605	113	41.13	36.36	38.72	25.53	23.23	24.50
Chota Nagpore Division.														
42	Hazaribagh	1,104,742	7,021	157.35	14,748	13,294	28,042	113	27.06	23.74	25.38	25.46	22.26	23.54
43	Lohardunga	1,809,244	13,045	138.60	20,505	17,351	37,856	120	25.73	21.35	23.52	21.18	18.04	19.59
44	Singbhum	455,775	4,753	95.00	5,111	4,039	9,150	127	23.54	17.74	20.14	21.38	17.23	19.30
45	Manbhum	1,048,238	4,147	252.18	12,210	10,008	22,218	123	23.24	18.94	21.08	18.77	15.07	16.91
TOTAL FOR THE PROVINCE		65,859,534	144,230	457.82	656,574	740,804	1,597,378	117	26.23	22.31	24.25	24.90	20.48	22.31

OFFICE OF THE SANIT. COMM. FOR BENGL,

The 24th May 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

**ANNUAL FORM No. III.—Deaths registered in the Districts of the Bengal Province during EACH MONTH
of the year 1889.**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Number.	DISTRICTS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL DEATHS REGISTERED DURING THE YEAR 1889.
Burdwan Division.														
1	Burdwan	2,456	2,318	2,619	3,097	2,327	2,864	3,755	2,954	2,716	2,800	2,844	3,273	33,616
2	Bankura	1,837	1,553	1,965	2,421	1,939	1,684	2,302	1,876	1,809	1,505	1,868	1,603	21,711
3	Birbhum	1,709	1,607	1,031	2,024	1,384	1,541	2,437	2,120	1,743	1,807	1,688	2,027	21,738
4	Midnapore	5,463	4,486	4,445	5,278	3,576	3,687	4,066	4,429	4,917	4,818	5,352	7,308	58,299
5	Hughli	1,483	1,332	1,257	1,234	875	705	1,148	1,286	1,560	1,439	1,566	2,127	16,633
6	Serampore	778	636	613	635	498	407	648	742	877	1,012	1,382	1,682	9,795
	Total of Hughli, including Serampore	2,240	1,768	1,775	1,921	1,363	1,293	1,796	2,028	2,437	2,451	3,358	3,809	26,418
7	Howrah	1,357	1,177	1,171	1,085	896	754	1,083	1,195	1,250	1,265	1,575	2,293	15,107
Presidency Division.														
8	24-Pergunnahs	2,960	2,356	2,555	2,576	1,892	1,834	2,302	2,340	2,901	2,703	3,274	4,880	32,572
9	Nuddah	3,360	2,298	2,068	4,143	3,026	2,573	2,804	2,472	2,630	3,325	3,013	3,785	36,125
10	Jessore	5,154	3,130	3,203	4,630	3,110	2,877	3,441	2,851	3,492	4,401	6,138	6,245	50,678
11	Murshadabad	2,616	2,000	2,155	4,238	2,408	2,047	2,696	2,259	2,611	2,966	2,515	2,627	32,193
12	Khulna	2,072	1,716	2,274	2,506	1,870	1,561	1,979	1,576	2,014	2,280	2,900	3,800	27,008
Rajahmundry Division.														
13	Dinajpur	3,700	3,244	3,536	4,248	2,862	2,470	2,626	2,359	3,187	3,441	4,239	6,668	42,569
14	Rajahmundry	3,140	2,162	2,438	4,109	2,653	1,836	2,323	1,032	2,401	3,350	3,544	4,743	34,550
15	Rungpore	5,320	4,355	4,608	4,455	3,434	3,217	3,348	2,085	2,848	3,654	5,066	7,498	50,674
16	Bogra	1,686	1,254	1,268	1,722	1,034	919	1,214	1,036	1,208	1,601	1,513	2,753	17,293
17	Pubna	2,778	1,803	1,908	3,235	2,061	1,578	1,910	1,846	2,178	2,903	2,614	3,798	28,466
18	Darjiling	310	281	368	575	597	592	710	545	461	406	374	417	6,384
19	Jalpaiguri	1,494	1,106	1,274	2,163	2,141	1,466	1,531	1,152	1,236	1,572	1,722	2,402	19,339
Dacca Division.														
20	Dacca	4,487	3,201	3,701	5,890	2,914	2,139	2,562	2,077	2,889	3,547	4,255	7,112	44,774
21	Faridpore	3,059	2,002	2,037	5,136	2,390	1,833	1,839	1,361	1,833	2,806	3,704	5,612	34,194
22	Backerganj	5,409	4,417	7,631	6,682	3,891	3,033	3,101	2,341	2,946	3,958	5,491	8,869	58,379
23	Mymensingh	5,471	4,312	5,815	5,868	5,119	3,943	5,007	3,413	4,011	4,796	4,977	7,760	59,452
Chittagong Division.														
24	Chittagong	2,428	1,919	1,745	1,880	1,502	1,325	1,951	1,772	2,534	2,143	2,153	3,080	24,021
25	Noakhali	2,366	1,852	2,310	2,867	2,084	1,838	2,352	1,583	1,501	1,646	2,322	3,603	26,226
26	Tipperah	3,960	2,923	3,170	3,827	3,842	2,022	2,725	2,010	2,265	2,565	2,960	4,559	35,956
Patna Division.														
27	Patna	2,385	1,822	1,771	2,787	2,578	2,787	5,718	5,884	5,883	5,072	3,965	3,783	43,868
28	Gya	3,420	2,318	2,446	3,573	2,705	3,186	5,607	7,451	7,500	7,575	5,803	5,080	56,984
29	Shahabad	3,516	2,363	2,307	3,310	3,618	2,979	5,241	6,260	7,017	6,909	5,516	4,631	52,710
30	Mosufferpore	2,604	2,100	2,013	2,765	3,372	2,307	3,600	4,093	5,123	5,088	4,510	4,135	41,570
31	Durbandha	2,713	2,378	2,504	3,346	3,004	2,878	4,310	4,602	5,429	6,373	4,993	4,557	47,849
32	Sarun	2,781	2,575	3,818	4,007	3,311	3,082	4,720	4,563	4,976	4,937	4,166	3,591	46,917
33	Chumpanin	1,971	1,424	1,622	2,458	2,159	3,068	2,443	2,289	2,536	3,001	3,205	3,559	28,735
Bhagulpore Division.														
34	Monghyr	3,635	2,763	2,722	3,094	3,116	3,276	5,858	5,775	7,557	8,696	6,626	6,402	60,292
35	Bhagulpore	3,605	2,714	2,922	5,581	3,918	3,151	4,609	4,668	5,329	6,377	5,297	5,094	53,124
36	Purneah	4,321	3,496	3,593	15,115	3,807	2,379	3,623	2,127	3,071	3,768	3,416	4,716	57,467
37	Maidah	1,860	904	1,093	2,329	1,689	1,031	1,246	850	976	2,117	1,688	2,028	17,433
38	Sonthal Pergunnahs	1,541	1,421	1,404	2,511	2,351	1,951	3,516	3,901	3,930	2,441	1,947	2,045	27,857
Orissa Division.														
39	Cuttack	3,339	2,916	2,567	3,376	4,290	6,393	6,556	4,409	3,793	3,961	5,551	6,973	51,413
40	Poori	2,906	1,444	1,646	3,209	5,556	8,128	5,594	2,533	1,967	1,854	2,589	5,645	40,151
41	Balasore	2,356	1,799	1,511	2,075	4,880	2,458	3,473	2,291	2,323	2,093	2,786	3,544	36,604
Chota Nagpore Division.														
42	Deogarh	2,304	1,476	1,653	2,294	1,970	1,802	2,710	3,008	2,325	2,990	2,514	2,416	28,048
43	Lohardugga	2,621	2,031	2,119	2,929	2,354	2,638	3,923	5,086	5,161	3,255	3,368	3,442	37,854
44	Saundham	643	688	631	639	697	738	932	925	641	694	600	678	9,140
45	Masbhum	1,919	1,191	1,447	2,245	1,911	1,820	2,907	3,649	1,990	1,763	1,990	1,796	23,308
	TOTAL FOR THE PROVINCE ...	125,965	96,187	113,505	167,301	114,896	108,669	132,066	126,815	135,179	146,610	147,796	184,533	1,597,479
	RATIO OF DEATHS PER 1,000 OF POPULATION ...	1.91	1.46	1.73	2.38	1.74	1.64	2.09	1.93	2.04	2.23	2.24	2.80	24.25

OFFICE OF THE SANV. COMM. FOR BENGAL,

W. H. GREGG, *Dip. Publ. Health, Cambr.*

The 24th May 1891

Sanitary Commissioner for Bengal.

ANNUAL FORM No. IV.—Deaths registered according to AGE in the Districts of the Bengal Province during the year 1889.

1	2	3	4	5	6	7	8	9	10	11	12										
Number.	DISTRICTS.	UNDER 1 YEAR.		1 AND UNDER 5 YEARS.		5 AND UNDER 10 YEARS.		10 AND UNDER 15 YEARS.		15 AND UNDER 20 YEARS.		20 AND UNDER 30 YEARS.		30 AND UNDER 40 YEARS.		40 AND UNDER 50 YEARS.		50 AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Burdwan Division.																					
1	Hurdwan ...	3,566	2,792	1,406	1,329	1,077	905	811	594	957	1,200	2,351	3,313	2,259	1,778	2,064	1,547	1,414	1,303	2,111	2,227
2	Bankura ...	2,283	1,846	1,086	1,121	757	646	618	879	890	688	1,383	1,237	1,300	1,010	1,095	794	920	806	1,400	1,354
3	Birbhum ...	3,366	2,714	1,300	1,147	723	605	459	346	495	659	1,110	1,216	1,037	901	1,010	918	753	714	1,199	1,309
4	Midnapore ...	5,984	5,164	3,199	3,329	1,870	1,770	1,233	953	1,423	1,633	3,187	3,321	3,456	2,667	3,253	2,394	2,603	2,234	4,120	4,275
5	Hughli ...	1,961	1,492	797	778	459	404	305	238	418	493	1,088	1,178	1,033	868	1,010	773	601	572	987	1,023
6	Serampore...	1,015	836	567	544	347	327	253	204	230	276	569	554	614	447	594	427	471	401	536	535
	Total of Hughli, including Serampore ...	2,974	2,328	1,364	1,322	806	731	558	443	638	759	1,657	1,732	1,646	1,313	1,604	1,200	1,163	1,073	1,463	1,617
7	Howrah ...	1,914	1,441	982	892	520	416	328	222	393	517	743	644	847	547	714	470	577	498	1,317	1,355
Presidency Division.																					
8	24-Pergunnahs ...	2,832	2,312	2,145	1,948	1,491	1,080	890	597	934	1,092	2,030	1,823	2,073	1,597	1,719	1,198	1,472	1,133	2,508	2,103
9	Nuddea ...	4,083	3,223	2,569	2,504	1,876	1,456	1,324	858	1,025	1,629	1,660	1,528	1,735	1,377	1,732	1,198	1,375	1,021	2,327	2,353
10	Jessore ...	3,781	3,334	3,597	3,469	3,012	2,307	1,835	1,311	1,635	1,646	2,825	2,805	2,809	2,381	3,036	1,909	1,864	1,559	2,196	2,796
11	Murshedabad ...	2,968	2,368	2,389	2,148	1,703	1,315	1,063	685	938	812	1,739	1,581	1,791	1,367	1,602	1,253	1,181	1,183	1,886	2,207
12	Khulna ...	2,689	2,073	1,896	1,615	1,274	981	683	484	534	965	1,267	1,758	1,352	1,232	1,380	996	977	794	2,143	1,785
Rajshahy Division.																					
13	Dinajpur ...	3,421	2,907	3,845	2,596	1,756	1,337	1,305	900	1,250	1,383	2,383	3,247	3,386	3,059	3,697	1,939	1,542	1,178	2,609	1,866
14	Rajshahy ...	2,955	2,418	2,158	2,196	1,893	1,544	1,181	873	1,238	1,535	2,383	2,389	2,423	1,872	1,756	1,339	1,623	779	1,431	1,314
15	Banspore ...	3,935	3,035	2,890	2,459	2,035	1,554	1,398	1,044	1,590	1,618	3,337	3,573	4,035	3,331	3,506	2,417	2,218	1,846	3,126	2,397
16	Bogra ...	1,998	1,529	1,002	1,010	759	648	481	347	430	597	949	1,180	1,039	890	910	661	653	499	946	765
17	Pabna ...	1,881	1,358	2,322	2,134	2,097	1,544	1,304	869	1,072	975	1,811	1,454	1,637	1,117	1,282	906	843	639	1,735	1,807
18	Darjiling ...	532	395	399	379	234	196	207	161	264	180	567	404	495	320	307	178	200	132	218	184
19	Jalpaiguri ...	2,271	1,707	1,014	986	578	436	512	420	544	606	1,146	1,279	1,351	1,114	1,095	922	797	638	1,065	906
Dacca Division.																					
20	Dacca ...	4,897	3,619	3,138	2,735	1,825	1,439	1,343	781	1,017	1,314	2,064	2,349	3,329	1,963	3,113	1,473	1,596	1,107	4,005	3,729
21	Faridpore ...	2,942	2,333	2,575	2,304	1,693	1,328	1,157	788	901	1,003	1,733	1,856	1,833	1,568	1,749	1,300	1,427	1,051	2,797	2,136
22	Backerganj ...	4,902	3,594	4,641	4,069	2,946	2,398	1,529	1,037	930	1,481	2,156	3,634	3,678	2,637	3,378	1,658	2,221	1,975	4,313	3,649
23	Mymensing ...	4,263	3,008	3,642	3,119	2,803	2,123	1,327	1,205	1,660	2,108	3,535	3,839	3,640	3,042	3,439	2,111	2,523	1,794	4,661	3,343
Chittagong Division.																					
24	Chittagong ...	1,646	1,390	1,367	2,000	1,001	950	599	415	631	653	996	1,298	1,313	1,074	1,246	848	1,067	950	1,954	1,267
25	Cox's Bazar ...	2,746	2,438	2,746	2,815	1,199	1,272	670	456	435	561	871	1,331	1,007	997	881	684	823	684	1,938	1,708
26	Tippurah ...	4,004	3,236	2,400	2,031	1,411	1,166	1,042	523	1,124	1,315	2,023	2,305	1,833	1,453	1,639	1,064	1,377	1,016	2,761	2,322
Patna Division.																					
27	Patna ...	5,043	4,476	3,929	3,573	1,428	1,205	877	664	669	564	1,788	1,597	1,779	1,416	2,005	1,683	2,234	2,213	3,058	2,439
28	Gya ...	4,710	4,358	4,624	4,425	3,105	1,779	1,380	1,038	939	853	2,348	2,423	2,404	2,238	3,027	2,804	3,091	2,897	4,436	4,380
29	Shahabad ...	4,675	4,141	3,552	3,399	2,128	1,667	1,227	786	864	624	2,406	2,111	2,333	2,300	2,941	2,214	2,551	2,653	4,214	4,253
30	Mosufferpore ...	1,860	1,646	2,842	2,513	1,896	1,406	1,320	894	1,042	624	2,791	1,814	2,340	1,906	2,913	2,086	2,586	2,307	3,103	2,321
31	Durbhanga ...	2,843	2,501	3,844	3,572	2,816	1,923	1,494	829	1,189	841	2,701	2,230	2,846	2,298	2,800	2,230	2,459	2,256	3,256	2,230
32	Sarun ...	5,108	3,391	4,051	3,137	1,502	1,025	1,054	610	795	532	2,032	1,556	3,321	1,724	2,204	1,716	2,080	1,891	4,619	4,718
33	Chumpran ...	2,215	1,789	2,302	1,899	1,118	902	717	443	671	461	1,033	1,453	1,768	1,337	1,714	1,153	1,466	1,351	2,303	2,303
Bhagulpore Division.																					
34	Monghyr ...	6,512	5,010	6,234	5,983	3,088	1,758	1,399	993	804	578	2,068	1,713	2,313	1,714	2,758	1,325	2,790	2,418	4,328	5,758
35	Bhagulpore ...	5,247	4,548	4,325	3,701	2,402	1,823	1,497	985	1,066	804	2,343	2,323	3,101	2,631	2,841	2,199	2,329	2,214	2,616	3,321
36	Purneah ...	2,112	1,963	3,192	2,514	3,034	2,165	2,673	1,680	2,804	1,860	4,564	4,185	4,840	3,748	4,067	3,044	3,578	2,402	2,236	2,391
37	Malda ...	1,286	1,058	1,577	1,379	1,018	695	640	300	568	438	1,708	901	1,039	784	823	536	509	477	1,161	1,317
38	Sonthal Pergunnahs ...	2,453	1,929	2,347	1,921	1,540	1,090	1,124	737	1,073	844	1,822	1,413	1,553	1,046	1,321	891	1,332	1,015	1,366	1,976
Orissa Division.																					
39	Outback ...	5,060	5,388	3,560	3,686	2,471	2,053	1,437	1,023	1,273	1,608	2,685	2,723	2,865	2,340	2,453	1,574	3,109	2,021	3,475	4,011
40	Poori ...	3,206	2,903	2,123	2,344	1,933	1,723	1,301	784	1,291	1,361	2,552	2,562	3,684	2,049	2,109	1,239	1,848	1,554	2,360	2,356
41	Balasore ...	2,967	3,029	2,126	2,272	1,697	1,339	1,151	802	993	1,144	1,917	2,148	1,984	1,724	1,856	1,312	1,446	1,147	1,973	3,176
Chota Nagpore Division.																					
42	Hazaribagh ...	2,774	2,603	2,165	2,081	1,115	925	784	508	430	553	1,180	1,035	1,597	1,131	1,538	1,037	1,418	1,454	1,769	2,196
43	Lohardugga ...	2,623	2,328	2,627	2,361	1,769	1,354	1,432	971	1,105	927	2,319	1,551	2,344	2,008	2,155	1,592	1,798	1,610	2,339	2,249
44	Singbhum ...	651	555	628	571	383	304	264	193	301	231	842	369	661	391	603	384	541	419	506	602
45	Manbhum ...	1,846	1,577	1,614	1,419	1,005	800	600	408	1,008	784	1,405	1,105	1,547	804	1,051	743	909	1,046	1,290	1,356
TOTAL FOR THE PROVINCE																					
		145,514	130,806	112,004	104,847	70,230	55,789	67,005	51,561	41,127	41,469	93,500	85,637	93,437	73,545	84,390	51,463	66,536	59,372	100,061	100,672
RATIO PER 1,000 OF LIVING		180.59	154.55	23.75	24.79	12.78	11.37	12.56	10.56	10.56	10.56	16.76	14.58	10.15	15.70	26.45	19.43	26.65	20.23	67.30	50.13

ANNUAL FORM NO. V.—Deaths registered according to CLASS in the Districts of the Bengal Province during the year 1889.

1		2		3						4						5					
Number.	DISTRICTS.	POPULATION ACCORDING TO CENSUS OF 1881.						NUMBER OF DEATHS REGISTERED.						RATIO OF DEATHS PER 1,000 OF POPULATION.							
		Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.		
Burdwan Division.																					
1	Burdwan	910	1,120,676	229,816	...	6,421	1,391,823	8	27,973	5,023	...	14	33,918	8.79	24.96	22.45	...	2.15	24.36		
2	Bankura	56	910,845	46,274	...	84,577	1,041,752	2	19,022	826	...	1,231	21,711	36.71	31.54	17.85	...	14.90	20.24		
3	Birbhum	48	617,310	102,621	...	14,449	794,428	5	17,672	8,987	...	174	21,735	104.16	33.63	23.90	...	12.00	27.80		
4	Midnapore	740	2,233,800	164,001	36	117,488	2,515,585	13	51,545	3,353	...	3,388	58,299	17.66	23.98	20.44	...	25.83	23.17		
5	Hughli	290	553,083	129,702	2	23	663,030	9	13,260	3,354	...	...	16,623	31.03	24.87	23.88	...	...	22.47
6	Serampore	365	291,616	59,637	288	30	361,956	4	8,248	1,548	...	...	9,796	10.96	23.28	29.96	...	...	27.53
	Total of Hughli, including Serampore	655	824,648	189,359	290	53	1,015,008	13	21,508	4,897	...	...	26,418	19.84	26.98	23.93	...	...	28.02
7	Howrah	2,051	500,870	132,118	37	305	635,351	81	12,069	3,007	...	...	15,107	15.11	24.09	22.76	...	...	23.77
Presidency Division.																					
8	24-Pergunnahs	10,167	1,034,114	624,082	240	750	1,673,362	130	21,286	11,157	...	...	32,573	12.78	20.56	17.87	...	...	19.46
9	Nuddea	6,422	727,890	921,895	1	13	1,655,721	143	16,012	19,970	...	...	36,125	22.26	31.99	21.67	...	...	31.81
10	Jessore	492	788,322	1,770,505	...	86	1,985,375	7	19,750	30,921	...	...	50,678	14.28	23.70	26.41	...	...	26.13
11	Murshedabad	470	634,796	589,957	1	1,008	1,221,790	4	17,312	14,907	...	...	32,123	8.51	27.27	25.09	...	...	26.18
12	Khulna	747	623,657	555,544	...	...	1,079,948	8	12,251	14,748	...	...	27,008	12.04	23.39	26.34	...	...	26.00
Rajshahye Division.																					
13	Dinajpur	457	710,630	795,824	...	1,435	1,514,346	4	19,897	22,604	...	64	42,569	8.75	27.76	28.40	...	44.59	28.11		
14	Rajshahye	121	289,128	1,050,290	55	13	1,339,603	1	6,932	27,617	...	...	34,550	8.28	23.97	26.29	...	...	23.79
15	Bankura	84	816,634	1,279,605	80	1,081	2,097,964	2	18,794	31,879	...	...	50,674	23.25	23.01	24.90	...	...	24.15
16	Mogra	27	140,481	502,825	3	58	733,593	1	3,365	14,000	...	...	17,366	37.03	23.24	23.61	...	...	28.54
17	Pubna	114	361,479	949,904	1	228	1,311,728	1	7,828	20,437	...	...	28,446	8.77	31.65	21.73	...	...	31.70
18	Darjiling	842	127,181	8,206	14,775	641	15,643	32	4,880	364	352	17	5,634	38.00	38.28	44.25	18.74	28.52	36.19		
19	Jaipur	125	308,786	208,409	490	4,614	582,390	...	11,850	7,187	...	296	19,339	...	32.15	34.27	...	6.41	33.20		
Dacca Division.																					
20	Dacca	6,790	866,680	1,250,487	40	135	2,116,350	174	19,204	25,336	...	...	44,774	19.77	22.48	20.25	...	...	21.15
21	Faridpore	2,741	681,992	974,081	13	5	1,631,734	32	13,991	20,471	...	...	34,194	11.07	29.93	20.99	...	...	23.95
22	Backerganj	3,717	624,497	1,207,094	4,797	84	1,900,869	93	15,808	42,371	13	...	58,279	25.02	25.30	33.43	...	...	30.65
23	Mymensing	151	989,314	2,011,323	...	25,055	2,056,943	2	20,383	37,233	...	664	58,482	13.24	20.60	18.32	...	35.29	19.13		
Chittagong Division.																					
24	Chittagong	1,055	274,177	801,946	54,110	13	1,132,341	33	5,666	17,001	1,321	...	24,021	31.27	20.59	21.19	24.41	...	31.21		
25	Coxhali	588	211,476	608,692	114	2	820,777	10	5,525	20,691	...	...	26,220	17.90	26.12	33.99	...	...	31.95
26	Tipporah	199	509,006	1,004,722	374	...	1,614,361	...	11,892	24,076	...	...	35,968	...	23.24	23.96	...	...	23.74
Patna Division.																					
27	Patna	2,588	1,535,853	213,052	...	66	1,751,569	40	30,262	4,537	...	...	43,868	18.98	25.59	21.23	...	...	23.04
28	Gya	98	1,891,484	323,098	...	4	2,124,822	2	50,832	6,900	...	...	56,994	20.93	26.75	22.74	...	...	26.67
29	Shahabad	278	1,617,581	144,732	...	20	1,964,909	5	49,135	3,570	...	...	52,710	18.11	27.02	24.83	...	...	26.83
30	Mosuffepore	372	2,305,390	316,904	...	...	2,622,294	4	34,480	4,896	...	...	41,370	10.76	16.11	15.44	...	...	16.02
31	Burhanpore	325	2,323,979	308,985	...	158	2,632,447	6	42,326	5,117	...	...	47,349	18.48	18.16	16.84	...	...	17.97
32	Barun	252	2,016,166	249,251	...	...	2,265,417	3	41,287	4,027	...	...	45,917	10.63	20.47	17.18	...	...	20.05
33	Chumpanan	1,096	1,476,986	242,697	...	...	1,721,698	41	25,043	3,652	...	...	28,735	21.17	16.95	15.06	...	...	16.99
Bhagulpore Division.																					
34	Monghyr	1,091	1,774,013	187,617	...	7,153	1,968,774	11	55,389	4,918	...	74	60,982	10.08	31.16	26.23	...	10.34	30.60		
35	Bhagulpore	578	1,764,304	185,633	...	16,743	1,966,155	6	46,283	3,837	...	...	50,144	8.24	27.93	20.95	...	...	27.01
36	Purneah	827	1,605,539	771,130	...	691	1,946,997	1	35,514	21,952	...	...	57,467	9.05	22.98	22.45	...	...	31.08
37	Maidah	24	379,163	322,625	...	1,744	710,449	1	10,142	7,280	...	...	17,423	38.61	26.74	23.13	...	...	24.53
38	Sonthal Pergunnahs	3,067	847,680	108,890	132	608,415	1,608,093	10	17,001	2,381	...	3,465	27,567	3.29	30.05	21.86	...	13.91	17.76		
Orissa Division.																					
39	Cuttack	2,342	1,744,327	47,829	5	964	1,795,065	45	53,862	1,006	...	...	54,413	19.31	30.99	21.16	...	...	30.31
40	Poori	819	873,664	74,003	...	1	888,487	7	39,093	481	...	...	40,181	8.64	45.43	34.34	...	...	45.29
41	Balasore	815	918,792	23,894	4	4,805	945,390	17	35,972	580	...	...	36,604	20.95	30.27	23.23	...	11.30	38.73
Chota Nappore Division.																					
42	Hamirbagh	552	994,811	106,097	...	73,282	1,101,743	9	23,966	2,647	...	1,420	28,048	16.20	25.21	24.94	...	19.97	25.26		
43	Lohardugga	36,281	569,843	97,403	1	628,717	1,009,244	518	16,994	2,068	...	15,239	37,584	14.27	19.55	20.33	...	39.13	26.23		
44	Singbhum	2,958	447,510	2,329	...	648	453,776	87	9,084	70	...	...	9,160	13.38	30.17	20.05	...	...	20.14
	Manbhum	552	945,347	45,453	23	65,953	1,038,289	33	20,482	904	...	903	23,508	35.73	31.62	19.28	...	13.76	21.08		
TOTAL FOR THE PROVINCE		97,091	42,781,639	21,284,237	79,613	1,666,964	65,350,534	1,533	1,053,469	508,481	1,022	36,390	1,597,476	15.99	24.65	23.74	31.16	21.17	24.35		

OFFICE OF THE SANIT. COMM. FOR BENGAL, }

The 24th May 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VI.

ANNUAL FORM NO. VI — Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	DISTRICTS.					
	Burdwan Division.					
1	Burdwan	1,335,905	3,184	60	22,082	619
2	Bankura	999,404	1,464	415	14,137	598
3	Birbhum	786,580	1,602	2	13,900	113
4	Midnapore	2,446,201	3,768	210	41,088	2,685
5	Hughli	620,856	401	15	10,398	1,224
6	Serampore	805,231	435	5	5,326	931
	Total of Hughli, including Serampore ...	926,087	836	20	16,224	2,175
7	Howrah	529,763	905	12	6,222	2,323
	Presidency Division.					
8	24-Pergunnahs	1,424,329	2,267	12	19,601	995
9	Nudda	1,600,321	3,467	17	25,140	209
10	Jessore	1,930,880	4,498	7	41,408	199
11	Murshedabad	1,143,106	4,143	2	21,990	144
12	Khulna	1,064,918	2,563	9	19,079	235
	Rajshahye Division.					
13	Dinaipur	1,501,786	486	8	58,692	91
14	Rajshahye	1,319,812	1,081	4	20,128	73
15	Bungpore	2,034,644	606	6	6,068	117
16	Bogra	727,214	168	4	14,044	84
17	Pubna	1,275,424	701	3	25,197	123
18	Darjiling	148,627	401	4	3,424	714
19	Jalpaiguri	574,443	1,170	2	16,886	97
	Dacca Division.					
20	Dacca	2,023,628	4,570	60	26,833	1,917
21	Fatidpore	1,821,471	6,455	81	22,287	525
22	Hackerganj	1,887,703	10,552	53	30,460	899
23	Mymensing	3,000,830	4,737	924	43,560	805
	Chittagong Division.					
24	Chittagong	1,110,311	371	2	19,644	955
25	Noakhali	515,648	1,696	5	21,115	442
26	Tipperah	1,433,312	8,931	204	22,518	847
	Patna Division.					
27	Patna	1,466,516	1,546	402	27,602	1,591
28	Gya	2,038,691	2,941	343	43,390	552
29	Shahabad	1,885,941	2,903	750	26,235	497
30	Mozufferpore	2,490,715	2,531	179	26,294	948
31	Darbhanga	2,567,351	3,163	233	26,082	1,247
32	Barun	2,208,197	1,526	381	19,941	8,106
33	Chumparun	1,700,345	734	1,576	19,500	230
	Bhagulpore Division.					
34	Monghyr	1,886,174	1,689	419	47,206	313
35	Bhagulpore	1,908,705	3,006	171	40,696	642
36	Purneah	1,883,671	17,595	7	27,376	161
37	Maldah	698,018	1,046	.....	14,790	51
38	Southal Pergunnahs	1,560,968	3,528	39	20,632	417
	Orissa Division.					
39	Cuttack	1,724,897	14,517	165	20,172	4,635
40	Poori	543,703	18,080	807	5,069	2,431
41	Balasore	925,915	12,781	162	10,429	5,763
	Chota Nagpore Division.					
42	Baharibagh	1,089,436	754	46	22,789	617
43	Lohardugga	1,590,801	4,982	55	21,229	3,531
44	Singbhum	447,769	497	2	6,131	627
45	Manbhum	1,048,924	1,734	180	15,271	1,215
	Total for the Province ...	63,666,194	168,185	8,012	1,077,740	46,330
	TOWNS.					
	Burdwan District.					
1	Burdwan	34,080	63	.....	469	134
2	Kalna	10,901	16	.....	173	26
3	Baniganj	10,937	137	.....	128	23
	Bankura District.					
4	Bankura	17,995	79	86	213	56
5	Basenpur	18,563	41	24	87	21
6	Shonamukhi	5,590	33	1	64	7
	Birbhum District.					
7	Soori	7,849	.....	.....	101	12
	Midnapore District.					
8	Midnapore	33,560	24	2	172	202
9	Ghatal	22,638	19	.....	127	22
10	Chandrakona	12,227	33	.....	102	41
11	Ramjibanpore	10,909	17	.....	63	23
	Hughli District.					
12	Hughli	31,637	69	4	462	222
13	Jehanabad	10,367	11	.....	124	24
14	Serampore	26,496	213	5	274	267
15	Baidyabatti	14,715	49	1	102	54
16	Uttarpara	5,510	28	.....	20	24

Districts and Principal Towns of the Bengal Province during the year 1889.

8					9	10	11										12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injury.	All other causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
24	36	93	149	802	5,949	22,196	2'38	'04	16'53	'46	'22	4'45	24'10	21'60	1		
15	13	77	123	251	3,987	20,812	1'40	'41	14'14	'59	'23	5'33	26'32	17'37	2		
11	8	88	94	808	5,756	21,576	2'03	'08	17'67	'14	'25	7'31	27'43	25'62	3		
25	18	287	573	900	8,309	26,853	1'54	'08	16'79	1'05	'20	3'59	25'24	21'47	4		
17	22	106	108	253	2,678	15,399	'64	'02	17'55	2'01	'40	4'15	24'80	21'24	5		
21	14	86	73	144	1,224	8,055	1'42	'01	17'44	2'01	'67	4'01	26'38	19'11	6		
38	86	142	181	307	3,802	23,454	'90	'02	17'51	2'34	'43	4'10	25'32	20'54			
27	23	141	115	306	3,034	12,712	1'70	'02	11'74	4'21	'27	5'72	23'99	20'07	7		
68	74	420	226	863	2,945	26,703	1'59	'008	13'76	'69	'61	2'06	18'74	20'68	8		
54	116	123	563	861	5,017	24,761	2'22	'01	16'15	'13	'55	3'21	23'27	21'44	9		
57	141	305	394	957	3,567	20,436	1'32	'003	21'44	'10	'49	1'74	26'13	23'95	10		
23	31	105	259	517	2,826	29,622	3'62	'001	19'23	'12	'45	2'47	25'21	24'71	11		
26	40	226	180	452	4,047	26,685	2'68	'008	17'91	'22	'42	3'69	25'05	23'87	12		
9	17	212	895	633	2,229	22,149	'32	'005	25'76	'06	'42	1'49	28'63	25'41	13		
40	77	202	400	719	1,961	33,900	'81	'002	22'82	'05	'54	1'43	26'73	30'63	14		
4	5	277	283	574	2,473	20,044	'29	'008	22'09	'05	'27	1'23	24'01	26'69	15		
12	20	234	261	537	2,361	17,148	'23	'005	19'31	'04	'73	3'24	23'58	26'63	16		
23	52	159	353	591	1,033	27,446	'54	'002	19'75	'00	'40	'80	21'67	28'41	17		
28	12	34	11	79	681	5,393	3'30	'02	23'03	4'80	'53	4'28	26'28	24'46	18		
4	9	105	59	177	780	19,112	2'03	'003	20'39	'16	'30	1'35	23'27	20'44	19		
54	106	360	297	787	8,430	22,507	2'25	'02	13'25	'94	'38	4'16	21'04	20'89	20		
17	53	352	302	724	8,927	33,989	3'68	'04	13'74	'32	'44	2'42	20'26	16'87	21		
55	64	306	217	1,122	16,409	27,083	5'48	'01	16'14	'31	'59	3'16	30'71	27'56	22		
29	49	253	374	605	7,075	27,990	1'57	'30	14'47	'26	'26	2'56	19'23	16'15	23		
6	8	591	65	670	2,045	23,687	'33	'001	17'69	'66	'60	1'84	21'33	12'76	24		
4	7	534	68	536	2,351	26,135	2'06	'000	25'88	'54	'65	2'88	22'04	22'69	25		
20	17	487	103	674	7,055	25,229	2'65	'13	15'18	'57	'45	4'75	23'75	18'50	26		
16	61	592	933	932	6,833	30,011	'01	'27	18'82	1'29	'63	4'66	26'60	25'52	27		
25	111	745	367	1,248	4,682	53,150	1'44	'16	21'28	'27	'61	2'29	28'07	27'27	28		
57	96	595	172	890	5,779	51,045	2'06	'39	20'80	'26	'47	3'05	27'06	27'45	29		
24	24	929	623	1,580	3,759	39,328	1'41	'07	11'76	'38	'63	1'52	15'78	14'33	30		
7	2	622	695	1,296	2,688	45,396	1'23	'08	14'28	'48	'50	1'04	17'64	14'35	31		
27	101	553	402	1,286	17,708	44,097	'09	'17	9'05	1'40	'08	8'01	19'26	20'27	32		
27	68	583	396	1,074	4,957	28,101	'43	'92	11'40	'15	'63	2'91	16'52	22'47	33		
10	19	824	562	1,415	6,513	57,555	'89	'22	25'02	'16	'75	3'45	30'51	22'02	34		
8	10	299	353	749	6,435	51,690	1'57	'08	21'30	'33	'34	3'37	27'06	22'11	35		
16	21	239	200	476	917	67,012	9'59	'003	20'65	'07	'25	'50	31'09	28'06	36		
5	5	35	105	210	906	17,043	1'49	'...	21'18	'04	'30	1'38	24'41	24'13	37		
16	15	150	102	243	2,674	27,032	2'26	'02	13'22	'26	'21	1'71	17'71	15'35	38		
54	169	512	227	1,022	12,175	52,690	8'41	'09	11'68	2'68	'50	7'05	30'54	20'79	39		
37	54	273	79	443	13,629	38,409	20'93	'93	5'53	2'37	'51	15'66	44'47	24'21	40		
38	71	171	127	407	6,425	36,017	13'81	'19	11'27	0'20	'43	6'94	38'93	24'45	41		
29	42	342	161	575	2,764	27,547	'69	'04	20'91	'56	'52	2'53	25'28	23'80	42		
8	4	125	196	325	7,230	27,335	3'13	'02	13'34	2'21	'20	4'54	23'46	19'62	43		
53	47	36	154	289	1,436	8,072	1'10	'004	13'69	1'37	'64	3'20	20'03	19'16	44		
8	7	163	87	305	3,162	21,847	1'65	'17	14'55	'15	'23	3'03	20'82	16'80	45		
1,059	1,056	14,976	11,673	29,564	217,677	1,542,558	2'66	'12	16'92	'72	'46	3'41	24'22	22'25			
...	...	4	3	7	285	1,018	3'72	'...	13'76	4'61	'20	8'36	20'27	30'39	1		
...	...	1	4	5	12	241	1'46	'...	15'77	5'30	'45	1'09	22'10	24'21	2		
...	...	7	2	9	96	463	12'52	'...	12'61	6'50	'33	7'36	42'33	20'99	3		
...	...	8	...	9	42	485	4'41	4'60	11'30	5'13	'50	2'34	27'10	21'73	4		
...	...	2	...	6	106	305	2'17	1'80	4'61	1'64	'31	5'61	16'16	20'14	5		
...	...	2	...	4	...	109	6'90	'17	11'44	1'25	'71	'...	19'49	29'35	6		
...	...	3	3	6	37	162	'76	'...	12'86	1'62	'76	4'77	20'64	21'21	7		
...	...	5	...	6	302	722	1'01	'05	5'12	6'01	'17	9'11	21'51	22'05	8		
...	...	1	...	6	53	227	1'60	'...	10'04	1'74	'47	4'19	17'26	16'69	9		
...	...	...	...	2	101	279	2'09	'...	8'22	3'34	'16	8'24	22'78	22'10	10
...	...	...	...	3	80	213	1'55	'...	6'52	2'10	'45	7'33	19'98	14'23	11
...	...	12	2	13	304	1,010	5'12	'12	14'26	7'25	'56	6'43	31'27	20'16	12		
...	...	8	3	5	10	814	1'04	'...	15'60	2'28	'47	'05	20'86	11'04	13		
...	...	16	4	27	435	1,221	8'03	'18	10'24	10'07	1'01	16'41	46'08	22'08	14		
...	...	2	1	6	93	511	3'22	'06	7'53	3'66	'40	6'31	21'13	15'01	15		
...	...	...	...	3	63	205	6'29	'...	9'07	9'80	'54	11'43	27'74	23'7	16

ANNUAL FORM No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	TOWNS—continued.					
	Howrah District.					
17	Howrah	80,813	488	19	585	393
18	Bali	14,815	61	2	137	63
	21-Pergunnahs District.					
19	South Suburban	51,654	51	28	309	83
20	Baranassore	28,942	190	6	503	110
21	Rajpore	10,573	25	...	242	15
22	Angurpara	22,739	40	4	409	86
23	Nawabganj	18,018	68	5	310	90
24	Nathhatti	21,533	98	1	302	84
25	Basirhat	20,450	30	...	132	18
26	Baduria	19,135	19	...	130	7
27	Manicktollah	28,649	67	...	196	47
28	Coalspore and Chitpore	26,294	119	7	604	128
	Nuddea District.					
29	Kishnaghur	27,477	35	...	232	14
30	Banarhat	8,083	8	...	50	16
31	Santipore	29,687	27	1	241	19
32	Kusia	9,717	40	...	107	13
33	Meherpore	5,731	5	...	51	2
34	Nobodip	14,105	37	...	69	4
	Jessore District.					
35	Jessore	8,405	11	1	182	18
	Murshidabad District.					
36	Berhampore	23,605	109	...	240	61
37	Kandi	10,681	33	...	141	9
38	City Murshidabad	39,231	207	...	817	73
39	Jungipur	10,187	66	...	116	31
	Khulna District.					
40	Satkira	8,738	20	...	103	7
41	Khulus	6,292	59	...	54	15
	Dinajpur District.					
42	Dinajpur	12,540	5	...	296	30
	Rajshahye District.					
43	Rampore Beaulah	19,791	98	...	345	44
	Rungpore District.					
44	Rungpore	18,320	111	1	242	31
	Bogra District.					
45	Bogra	6,179	7	...	59	18
	Pubna District.					
46	Pubna	15,267	41	1	133	15
47	Meriganj	21,037	26	...	229	37
	Darjiling District.					
48	Darjiling	7,018	...	5	14	56
	Jalpaiguri District.					
49	Jalpaiguri	7,947	19	2	110	19
	Dacca District.					
50	Dacca	80,161	208	31	531	227
51	Narainganj	12,561	121	...	111	54
	Faridpore District.					
52	Faridpore	10,263	14	...	103	25
	Backerganj District.					
53	Barisal	13,186	64	...	87	2
	Hymensing District.					
54	Jamulpore	16,091	25	1	225	8
55	Kimhoreganj	12,668	14	1	65	16
56	Tangail	15,124	...	...	61	11
	Chittagong District.					
57	Chittagong	22,130	26	...	105	...
	Noakhali District.					
58	Sudharam	5,124	5	...	39	3
	Tipperah District.					
59	Comillah	12,506	53	...	149	12
60	Brahmanberia	17,543	40	...	120	32

Districts and Principal Towns of the Bengal Province during the year 1889—continued.

8					9	10	11										12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
3 1	3 3	23 4	4 1	32 8	548 61	2,063 333	5'37 4'11	'20 '13.	6'44 9'24	4'32 4'25	'25 '53	6'01 4'11	22'71 22'40	23'43 20'56	17 18		
1 3	1 1	6 13	...	8 20	101 210	579 1,105	'98 6'53	'54 '20	5'33 18'77	1'58 3'03	'15 '68	1'95 7'00	11'26 36'85	14'73 24'41	19 20		
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ANNUAL FORM NO. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Deer-complaints.
	TOWNS—concluded.					
	<i>Patna District.</i>					
61	Patna	160,287	825	114	916	694
62	Behar	48,071	20	20	430	78
63	Dinapur	57,225	41	28	531	58
64	Barh	25,610	91	8	261	90
	<i>Gya District.</i>					
65	Gya	76,121	462	10	1,659	61
66	Daudnagar	9,570	19	.....	242	8
	<i>Shahabad District.</i>					
67	Arrah	49,485	20	14	461	78
68	Dumraon	17,835	52	12	291	74
69	Buxar	17,688	103	8	215	32
	<i>Muzafferpore District.</i>					
70	Muzafferpore	42,742	51	4	324	120
71	Sitamarhi	6,125	25	.....	104	26
72	Hajipore	25,695	42	5	109	173
73	Lalganj	16,783	35	14	140	129
	<i>Durbhanga District.</i>					
74	Durbhanga	66,096	878	16	952	202
	<i>Saran District.</i>					
75	Chupra	51,670	103	42	326	162
76	Sewan	13,310	26	2	96	30
77	Kevilganj	12,493	101	6	170	51
	<i>Chumpran District.</i>					
78	Bettiah	21,263	6	3	282	52
	<i>Monghyr District.</i>					
79	Monghyr	57,520	228	8	578	333
80	Jamulpore	13,563	106	.....	168	48
81	Shalipura	12,517	22	.....	387	.....
	<i>Bhagulpore District.</i>					
82	Bhagulpore	57,453	89	1	469	63
	<i>Purneah District.</i>					
83	Purneah	15,016	155	1	220	27
	<i>Maldah District.</i>					
84	English Bazar	12,430	34	.....	273	40
	<i>Sonthal Pergunnahs District.</i>					
85	Deoghur	8,005	43	.....	74	33
	<i>Outtack District.</i>					
86	Outtack	49,230	195	45	171	76
87	Kondrapara	15,996	74	.....	173	27
88	Jajpore	11,233	101	1	145	95
	<i>Poori District.</i>					
89	Poori	24,784	589	66	374	224
	<i>Balasore District.</i>					
90	Balasore	20,265	212	.....	79	85
	<i>Hasaribagh District.</i>					
91	Hasaribagh	15,806	36	1	240	61
	<i>Lohardugga District.</i>					
92	Kanohi	18,443	331	.....	135	25
	<i>Singbhum District.</i>					
93	Chybasan	6,008	12	.....	98	24
	<i>Manbhum District.</i>					
94	Purulla	2,304	181	8	154	27
	Total for the Towns ...	2,193,840	7,918	558	22,731	6,699
	TOTAL FOR THE PROVINCE ...	65,859,534	1,71,168	8,665	1,101,221	32,070

OFFICE OF THE SANY. COMMR. FOR BENGAL, }

The 24th May 1890.

Districts and Principal Towns of the Bengal Province during the year 1889—concluded.

8					9	10	11											12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.								FROM ALL CAUSES.		Number.	
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other causes.	For the year.	Mean of previous five years.				
Male.	Female.																	
3	4	72	4	83	622	2,562	2'01	'71	5'74	3'14	'51	3'88	15'98	22'52	61			
...	1	8	7	16	256	820	'40	'40	8'78	1'50	'33	5'22	16'74	29'06	62			
...	...	13	3	16	156	524	'78	'53	10'18	'09	'30	2'98	15'77	12'53	63			
...	...	17	2	19	178	651	3'55	'12	11'05	4'19	'80	7'53	27'57	28'95	64			
...	...	24	10	34	988	3,218	6'06	'13	21'70	'80	'49	12'97	42'27	49'30	65			
...	...	2	...	2	80	307	1'22	...	24'51	'81	'30	3'64	31'10	25'35	66			
...	...	24	1	25	123	725	'46	'32	10'60	1'79	'08	2'82	16'68	16'77	67			
...	1	9	2	12	63	504	2'91	'07	16'31	4'14	'87	5'53	28'25	25'25	68			
...	...	6	1	7	69	436	5'04	'45	12'16	1'81	'39	3'90	34'67	18'16	69			
...	...	55	5	60	271	890	1'19	'09	7'58	4'21	1'40	6'34	20'82	22'36	70			
...	...	8	...	8	34	107	4'08	...	10'07	4'24	1'30	5'55	32'16	30'20	71			
...	3	9	1	10	122	826	1'63	'19	6'57	6'09	'62	4'74	20'49	18'25	72			
...	...	11	2	13	84	431	2'08	'83	8'54	8'28	'89	5'24	25'68	21'05	73			
...	...	10	4	14	461	4,058	5'71	'24	14'85	3'05	'21	6'88	31'06	27'44	74			
...	...	33	11	44	434	1,116	1'09	'81	6'30	8'13	'04	8'39	21'89	18'36	75			
...	4	12	2	14	140	522	1'95	'15	7'20	2'02	1'42	10'51	24'17	34'18	76			
...	...	6	5	13	41	382	8'08	'48	13'60	4'08	1'04	3'28	36'57	32'25	77			
...	...	11	2	13	328	634	'28	'14	10'01	2'44	'61	15'42	29'81	24'00	78			
...	...	37	92	129	569	1,754	3'00	...	10'04	5'78	'74	9'89	30'49	20'51	79			
...	4	3	8	11	105	523	7'80	...	12'38	3'17	'80	14'37	35'56	39'07	80			
...	...	6	3	9	42	460	1'75	...	130'91	...	'71	3'35	30'75	34'75	81			
...	...	5	...	5	817	1,404	1'54	'01	8'68	'02	'08	14'22	25'48	37'07	82			
...	...	3	3	6	46	455	10'32	'06	14'65	1'79	'39	3'06	30'80	30'96	83			
...	...	2	2	4	38	390	2'73	...	21'96	8'21	'40	3'05	31'37	20'51	84			
...	...	1	...	1	74	225	5'37	...	9'24	4'12	'12	9'35	28'10	21'73	85			
...	...	12	3	15	364	866	4'50	1'04	3'95	1'75	'34	8'41	20'02	17'66	86			
...	3	3	2	5	100	502	4'71	...	11'02	6'54	'51	16'10	24'98	25'99	87			
...	1	5	2	7	4	355	8'39	'08	12'90	8'54	'71	'35	31'60	18'60	88			
...	...	13	4	17	509	1,772	23'76	2'25	15'09	9'03	'80	20'53	71'49	50'83	89			
...	1	4	1	5	204	587	10'48	...	3'39	4'24	'29	10'06	28'96	26'74	90			
...	...	12	...	12	143	495	2'35	'06	15'68	8'08	'91	9'34	32'34	26'85	91			
...	...	11	2	13	114	519	12'38	...	7'51	1'35	'75	6'18	28'14	17'51	92			
...	...	5	1	6	31	168	1'90	...	15'81	3'89	'69	5'16	27'97	26'80	93			
...	...	11	1	12	69	461	19'45	'85	16'55	8'37	1'28	7'41	49'54	28'80	94			
...	...	230	214	444	1,180	14,709	8'61	'29	10'84	3'05	'52	6'70	28'03	24'54	...			
1,125	2,016	15,796	11,787	27,583	222,896	1,597,478	2'59	'13	16'72	'80	'40	5'52	24'26	22'32	...			

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VII.—Deaths registered from CHOLERA in the

1	2	3	4	5	6	7	8	9	10	11	12
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.	June.
		Number in each district.	Number from which deaths from Cholera were reported.	Number in each district.	Number from which deaths from Cholera were reported.						
Burdwan Division.											
1	Burdwan	20	20	8,667	510	75	64	235	312	298	806
2	Bankura	13	13	5,520	205	27	154	296	277	207	178
3	Birbhum	9	9	3,200	230	7	55	87	47	86	279
4	Midnapore	29	29	14,810	1,107	493	453	477	780	304	489
5	Hughli	10	10	1,785	175	27	42	53	91	13	64
6	Serampore	8	8	824	119	54	25	11	87	34	43
Total of Hughli, including Serampore		18	18	2,707	294	81	67	64	128	46	87
7	Howrah	8	8	1,496	284	231	234	170	62	68	43
Presidency Division.											
8	24-Pergunnahs	33	33	5,485	735	401	353	465	269	283	243
9	Nudda	31	31	3,129	731	326	109	290	824	767	335
10	Jessore	22	22	4,834	903	644	163	202	534	345	337
11	Murshedabad	28	28	3,551	698	273	240	985	1,322	571	375
12	Khulna	15	15	2,890	733	331	164	518	589	366	380
Rajshahye Division.											
13	Dinajpur	17	16	6,031	131	17	9	9	177	161	48
14	Rajshahye	14	14	5,169	283	205	1	18	317	223	67
15	Rangpore	17	16	6,737	102	34	5	241	524	47	8
16	Rogra	10	10	4,329	74	3	...	6	35	23	18
17	Pubna	11	11	5,763	227	75	5	56	247	79	29
18	Darjiling	4	3	695	60	...	...	24	60	109	78
19	Jalpaiguri	9	9	1,153	183	4	11	109	243	518	181
Dacca Division.											
20	Dacca	14	14	6,025	1,089	423	202	574	1,584	539	63
21	Faridpore	14	14	4,669	945	434	207	967	2,409	626	138
22	Backerganj	17	17	4,834	1,818	682	910	3,010	2,551	1,120	538
23	Mymensing	18	17	16,719	511	257	207	216	1,274	1,440	555
Chittagong Division.											
24	Chittagong	14	10	1,390	91	40	24	83	70	40	25
25	Noakhali	10	10	2,828	325	63	61	346	405	291	163
26	Tipperah	13	13	4,481	736	480	372	791	1,122	487	185
Patna Division.											
27	Patna	17	16	5,960	402	8	8	11	50	75	183
28	Gya	14	14	6,300	556	10	8	59	132	122	267
29	Shahabad	14	14	5,574	289	...	...	59	97	13	132
30	Mozufferpore	13	13	4,281	306	9	...	...	14	37	70
31	Darbhanga	11	11	6,869	193	5	1	5	44	85	177
32	Sarun	13	13	4,578	336	...	1	3	33	196	161
33	Chumparun	10	10	7,760	95	...	...	...	15	172	67
Bhagulpore Division.											
34	Monghyr	14	14	3,583	333	...	1	7	7	142	208
35	Bhagulpore	13	13	3,205	319	4	2	164	317	494	135
36	Purneah	14	14	3,703	1,073	24	125	6,198	10,324	325	65
37	Malda	10	10	3,080	264	59	...	17	284	346	98
38	Sonthal Pergunnahs	6	6	12,336	627	9	...	84	318	351	364
Orissa Division.											
39	Outtaok	13	13	10,009	2,519	28	58	118	576	2,708	4,231
40	Poori	6	6	5,160	3,031	13	10	211	1,537	4,346	4,898
41	Balasore	10	10	6,393	2,301	120	240	350	1,917	5,649	4,199
Chota Nagpore Division.											
42	Manabigh	17	15	7,807	94	...	...	46	33	80	107
43	Chhindwaga	23	20	7,798	443	...	...	...	3	49	355
44	Singbhum	4	4	3,537	115	2	5	1	28	65	18
45	Manbhum	15	15	6,142	285	10	18	48	275	196	289
Total for the province ...		645	631	234,369	26,548	5,909	4,646	18,489	34,003	22,739	33,971

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 24th May 1890.

Districts of the Bengal Province during each month of the year 1889.

						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
1,081	338	85	5	88	33	1,787	1,648	3,430	2'07	2'27	2'48	1'87	1
355	95	22	24	2	4	874	773	1,647	1'72	1'44	1'58	'91	2
432	807	45	6	12	94	845	735	1,580	2'21	1'84	2'02	1'97	3
213	116	38	21	114	405	2,051	1,820	3,871	1'64	1'48	1'55	1'52	4
43	39	28	44	39	81	281	230	511	'89	'66	'77	1'18	5
40	16	30	52	160	233	423	312	735	2'42	1'75	2'08	1'78	6
53	55	50	08	199	314	704	542	1,246	1'43	1'03	1'22	1'39	
46	52	33	20	147	348	800	588	1,454	2'73	1'84	2'28	2'33	7
130	48	40	36	149	541	1,705	1,273	2,978	1'88	1'56	1'77	2'67	8
271	114	71	16	74	200	1,931	1,386	3,617	2'39	1'98	2'18	3'50	9
124	54	64	60	782	1,154	2,329	2,180	4,509	2'42	2'22	2'32	2'87	10
260	171	97	77	74	71	2,516	2,042	4,558	4'28	3'18	3'71	2'14	11
188	11	5	13	70	287	1,665	1,277	2,942	2'92	2'49	2'73	2'40	12
81	2	...	...	...	47	313	178	491	'40	'24	'32	'66	13
118	41	7	3	4	175	675	504	1,179	1'03	'74	'88	2'67	14
4	8	1	5	12	34	340	378	717	'31	'36	'34	1'43	15
3	18	1	3	2	64	97	78	175	'23	'21	'23	1'62	16
15	8	9	43	77	131	587	381	768	'59	'57	'58	1'87	17
184	29	9	...	...	...	302	189	491	3'37	2'85	3'15	1'64	18
83	31	7	1	1	...	663	526	1,189	2'16	1'90	2'04	1'16	19
55	15	9	7	71	1,270	2,639	2,260	4,899	2'55	2'08	2'31	2'41	20
27	11	10	22	352	1,277	2,512	2,057	6,469	4'38	3'60	3'98	3'38	21
124	18	19	10	28	486	5,722	4,694	10,416	5'87	5'06	5'47	3'42	22
251	46	12	13	28	470	2,039	2,138	4,777	1'69	1'42	1'56	1'84	23
17	23	13	1	...	52	188	208	396	'85	'34	'85	1'24	24
127	45	...	13	6	165	974	717	1,691	2'34	1'75	2'06	'90	25
63	6	4	...	20	495	2,272	1,752	4,024	2'95	2'34	2'65	1'76	26
600	547	192	79	42	20	2,022	829	1,821	1'15	'92	1'03	1'62	27
476	1,240	738	305	51	14	1,839	1,583	3,422	1'76	1'46	1'61	2'72	28
368	1,402	730	485	177	17	2,158	1,922	4,080	2'27	1'89	2'07	2'67	29
396	876	1,084	1,249	323	18	2,083	1,601	3,684	1'64	1'21	1'42	2'04	30
536	717	746	647	423	156	1,915	1,626	3,541	1'47	1'21	1'34	1'57	31
231	391	300	216	74	30	920	836	1,756	'64	'69	'76	1'88	32
23	80	108	104	41	10	414	326	740	'47	'38	'42	3'31	33
228	601	359	273	75	44	1,125	930	2,045	1'16	'91	1'03	1'76	34
294	601	171	315	144	24	1,072	1,423	2,495	1'70	1'44	1'57	1'53	35
84	24	18	144	187	74	9,471	8,279	17,750	10'10	9'08	9'59	'89	36
34	66	6	12	87	90	591	459	1,050	1'70	1'34	1'52	2'70	37
763	1,315	372	115	57	10	1,998	1,583	3,571	2'53	2'02	2'29	1'19	38
3,306	925	349	279	1,302	747	7,602	7,285	14,887	8'60	7'94	8'29	3'72	39
3,647	611	190	114	340	454	10,001	8,068	18,069	22'28	19'61	21'01	5'18	40
1,479	367	23	6	360	343	6,801	6,192	12,993	14'73	12'79	13'74	4'51	41
89	822	72	41	...	...	413	377	790	'75	'67	'71	1'44	42
847	2,680	1,186	83	...	...	2,722	2,491	5,213	3'41	3'06	3'23	1'55	43
132	108	110	30	...	1	288	241	509	1'18	1'06	1'12	'50	44
899	505	38	6	...	...	1,037	848	1,915	2'01	1'61	1'80	1'57	45
19,137	14,654	7,563	5,060	5,821	10,181	92,027	79,076	171,103	2'81	2'38	2'59	2'12	

W. H. GREGG, *Dip. Publ. Health, Camb.*,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VIII.—Deaths registered from SMALL-POX in the

1	2	3	4	5	6	7	8	9	10	
Number.	DISTRICTS.	CITIES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each district.	Number from which deaths from Small-pox were reported.	Number in each district.	Number from which deaths from Small-pox were reported.					
Burdwan Division.										
1	Burdwan	20	8	3,067	27	5	4	21	17	3
2	Bankura	12	12	5,523	219	21	40	46	127	118
3	Birbhum	9	2	3,260	10	...	...	...	1	...
4	Midnapore	29	17	14,810	152	12	8	14	20	15
5	Hughli	10	7	1,783	11	...	...	5	4	3
6	Serampore	8	6	924	8	...	...	...	1	...
	Total of Hughli, including Serampore ...	18	13	2,707	19	...	...	5	5	8
7	Howrah	8	7	1,406	21	...	1	2	8	9
Presidency Division.										
8	24-Pergunnahs	33	10	5,485	59	1	2	5	2	5
9	Nuddea	31	7	3,120	14	...	...	4	5	1
10	Jessore	22	6	4,836	5	...	...	...	3	4
11	Murshodabad	23	2	3,661	3	2	...	...	...	...
12	Khulna	15	4	2,890	5	...	4	4	...	1
Rajshahye Division.										
13	Dinajpur	17	4	6,921	6	...	1	1	5	...
14	Rajshahye	14	8	5,159	30	...	...	3	1	...
15	Rungpore	17	3	6,737	4	2	...	...	...	8
16	Bogra	10	2	4,229	4	...	...	1	2	...
17	Pubna	11	3	3,763	5	...	...	...	2	2
18	Darjiling	4	3	695	3	...	...	...	5	...
19	Jalpaiguri	9	2	1,153	4	...	1	1	...	...
Dacca Division.										
20	Dacca	14	9	6,625	31	4	15	7	16	16
21	Faridpore	14	6	4,669	15	10	6	11	19	6
22	Backerganj	17	8	4,596	21	8	6	6	10	...
23	Mymensing	18	13	15,719	58	78	170	198	159	85
Chittagong Division.										
24	Chittagong	14	1	1,390	5	...	...	...	...	...
25	Noakhali	10	2	2,623	5	...	...	2	2	...
26	Tipperah	13	4	6,481	57	43	30	29	45	48
Patna Division.										
27	Patna	17	17	5,930	237	57	26	26	82	99
28	Gya	14	13	6,800	290	24	28	46	57	47
29	Shahabad	14	14	5,574	273	43	124	164	174	103
30	Muzafforpore	13	12	4,281	87	13	13	29	59	51
31	Durbhanga	11	11	8,339	131	6	35	41	74	51
32	Sarun	13	13	4,578	221	26	24	25	56	102
33	Chumparun	10	10	7,796	559	76	52	77	242	281
Bhagulpore Division.										
34	Monghyr	14	7	3,593	19	1	1	...	5	10
35	Bhagulpore	13	7	3,243	21	18	20	13	21	20
36	Purneah	14	5	3,708	7	...	...	5	2	1
37	Maldah	10	...	3,080	...	...	...	...	...	...
38	Sonthal Pergunnahs	8	3	12,336	19	1	2	1	1	4
Orissa Division.										
39	Cuttack	13	12	10,069	111	8	27	22	40	21
40	Pooree	6	6	5,166	436	90	64	101	134	77
41	Belasore	10	9	6,393	147	58	42	55	18	9
Chota Nagpore Division.										
42	Hazaribagh	17	11	7,807	23	9	4	5	9	4
43	Lohardugga	23	5	7,798	68	...	...	...	8	11
44	Sinbhum	4	3	2,357	3	...	...	...	1	...
45	Manbhum	16	12	6,144	116	10	12	12	26	28
TOTAL FOR THE PROVINCE ...		645	319	234,360	8,604	596	831	991	1,470	1,248

OFFICE OF THE SANY. COMM. FOR BENGAL, }

The 24th May 1890.

Districts of the Bengal Province during each month of the year 1889.

5							6			7		8			9	10
June.	July.	August.	September.	October.	November.	December.	TOTAL			NUMBER OF THESE DEATHS AMONG CHILDREN.		TOTAL RATIO PER 1,000 OF POPULATION.			Mean ratio per 1,000 of previous five years.	Number
							Male.	Female.	Total.	Under one year.	Under twelve years.	Male.	Female.	Total.		
7 81 13 6 ...	2 59 18 ...	1 25 12 3 ...	... 18 11 ...	... 6 1 14 ...	... 2 15 ...	... 60 2 8 ...	34 204 1 114 9 5	26 232 1 98 10 6	60 536 2 212 19 11	8 50 ...	26 162 ...	'05 '59 '002 '09 '02 '03	'03 '48 '002 '07 '02 '03	'04 '51 '002 '08 '02 '03	'06 '02 '01 '03 '03 '03	1 2 3 4 5 6
6	2	3	...	1	...	7	14	16	30	2	5	'02	'03	'02	'03	
1	3	1	...	1	3	4	21	12	33	5	11	'06	'03	'05	'04	7
3 1 1 ...	2 1 ...	2 6 ...	1 ...	4 ...	8 ...	28 1 ...	33 14 2 1 8	30 4 6 1 6	63 18 8 2 9	...	1 7 4 1 1	'03 '01 '002 '001 '005	'03 '04 '006 '001 '01	'03 '01 '004 '001 '008	'02 '04 '004 '02 '004	8 9 10 11 12
...	...	...	...	...	...	1	2 1 6 2 3 4 1	6 3 1 2 2 2 3	8 4 7 4 4 6 4	...	...	'002 '001 '005 '005 '005 '004 '04 '003	'008 '004 '000 '006 '006 '001 '03 '01	'005 '003 '003 '006 '006 '003 '03 '006	'01 '02 '01 '008 '008 '003 '08 '005	13 14 15 16 17 18 19
7 2 40	2 4 58	2 5 30	2 4 24	3 1 30	5 3 13	2 3 41	46 43 25 479	35 85 7 447	81 81 32 926	14 ...	37 ...	'04 '05 '02 '30	'03 '04 '007 '29	'03 '04 '01 '30	'09 '02 '04 '05	20 21 22 23
...	...	...	...	...	...	2	1 4 114	1 1 90	2 5 204	1 ...	2 ...	'001 '009 '14	'001 '002 '12	'001 '006 '13	'0008 '10 '05	24 25 26
129 22 53 27 10 56 239	77 29 35 8 7 44 244	53 17 10 8 1 27 99	11 25 6 2 6 13 56	8 9 6 3 1 6 21	6 10 24 ...	19 23 32 4 5 11 59	291 182 397 106 110 235 811	276 171 397 95 123 196 798	567 353 784 201 258 431 1,579	123 75 203 53 67 129 596	458 297 685 154 169 420 1,677	'33 '17 '41 '08 '08 '21 '08	'30 '15 '39 '07 '00 '16 '00	'32 '10 '39 '07 '00 '18 '01	'34 '48 '14 '09 '04 '35 '59	27 28 29 30 31 32 33
7 17 ...	7 16 ...	3 11 ...	282 20 ...	...	...	4	205 89 6 ...	317 83 2 ...	422 172 8 ...	17 80 ...	34 102 ...	'21 '09 '006	'21 '08 '003	'21 '08 '004	'17 '16 '01 '007 '06	34 35 36 37 38
15 50 1	23 51 4	11 51 6	6 23 ...	9 25 4	8 39 ...	13 99 5	124 445 92	88 418 90	212 803 182	46 152 53	212 514 124	'14 '09 '10	'09 '04 '18	'11 '07 '19	'37 '25 '34	39 40 41
5 ...	3 4 ...	7 1 ...	3 9 ...	10 ...	...	2	20 25 1 113	30 10 1 75	49 35 2 188	5 ...	11 ...	'05 '03 '004	'03 '01 '004	'04 '03 '004	'20 '08 '01 '01	42 43 44 45
322	796	879	613	163	196	471	4,559	4,106	8,665	1,941	1,120	'13	'13	'13	'13	

W. H. GREGG, Dip. Publ. Health, Camb.,

Sanitary Commissioner for Bengal.

ANNUAL FORM NO. IX. — Deaths registered from FEVERS in

1	2	3	4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths from Fever were reported.	Number in each District.	Number from which deaths from Fever were reported.					
Burdwan Division.										
1	Burdwan	20	20	3,667	3,122	1,876	1,714	1,777	2,087	1,461
2	Bankura	13	13	5,520	5,515	1,228	1,028	1,193	1,450	1,168
3	Birbhum	9	9	3,280	2,511	1,197	1,057	1,083	1,368	880
4	Midnapore	29	29	14,810	10,243	3,642	2,966	3,131	3,638	2,522
5	Hughli	10	10	1,783	1,588	1,017	848	846	896	609
6	Serampore	8	8	924	874	413	316	310	406	291
	Total of Hughli including Serampore ...	18	18	2,707	2,462	1,430	1,164	1,155	1,272	900
7	Howrah	8	8	1,406	1,280	537	467	529	544	408
Presidency Division.										
8	24-Pergunnahs	33	33	5,485	4,433	1,998	1,624	1,671	1,836	1,216
9	Nudda	31	31	3,129	2,896	2,413	1,778	1,644	2,776	1,840
10	Jessore	23	22	4,830	4,186	4,140	2,682	2,671	3,076	2,429
11	Murshedabad	28	28	5,561	3,291	3,057	1,691	1,806	2,668	1,613
12	Khulna	5	15	2,890	2,334	1,504	1,216	1,377	1,680	1,031
Rajshahye Division.										
13	Dinajpur	17	17	6,921	6,074	3,493	2,976	3,222	3,792	2,494
14	Rajshahye	14	14	5,150	4,834	2,724	1,697	2,243	3,628	2,111
15	Rungpore	17	17	7,737	6,359	4,946	4,120	4,006	5,859	3,104
16	Bogra	10	10	4,239	3,135	1,362	1,024	1,012	1,400	839
17	Pubna	11	11	3,763	3,260	2,538	1,763	1,819	2,764	1,808
18	Darjiling	4	4	605	504	235	206	259	386	316
19	Jalpaiguri	9	9	1,153	1,032	1,409	1,100	1,111	1,827	1,536
Dacca Division.										
20	Dacca	14	14	6,425	5,527	2,628	2,036	2,189	2,978	1,617
21	Faridpore	14	14	4,000	3,271	2,240	1,503	1,723	2,312	1,327
22	Backersanj	17	17	4,338	2,683	2,789	1,993	2,256	2,670	1,740
23	Mymensing	18	18	15,719	3,695	4,322	3,319	2,858	3,858	2,090
Chittagong Division.										
24	Chittagong	14	14	1,300	1,066	1,991	1,509	1,372	1,449	1,151
25	Nonkhali	10	10	2,628	1,979	1,981	1,486	1,672	2,120	1,545
26	Tipperah	13	13	6,481	4,663	2,070	1,668	1,066	1,879	1,662
Patna Division.										
27	Patna	17	17	5,060	4,617	1,638	1,205	1,147	1,805	1,359
28	Gya	14	14	6,390	5,021	2,912	1,979	1,986	2,630	2,223
29	Shalabad	14	14	5,574	5,007	2,883	1,763	1,669	2,499	2,117
30	Moxuffpore	13	13	4,261	3,371	2,108	1,694	1,679	2,306	1,768
31	Durbhanga	11	11	6,550	2,525	2,390	2,053	2,006	2,821	2,507
32	Sarun	13	13	4,578	2,185	1,110	950	1,103	1,945	1,524
33	Chumparun	10	10	7,703	2,861	1,409	990	1,023	1,688	1,268
Bhagulpore Division.										
34	Monkhyr	14	14	3,583	3,075	2,863	2,150	2,180	3,268	2,420
35	Bhagulpore	13	13	5,265	3,040	2,863	1,176	2,335	3,358	2,542
36	Purneah	14	14	3,703	3,502	4,159	3,272	3,254	4,700	3,066
37	Maldah	10	10	3,080	2,470	1,468	919	974	1,843	1,181
38	Sonthal Pergunnahs	6	6	12,336	6,370	1,843	1,325	1,160	1,906	1,594
Orissa Division.										
39	Cuttack	18	18	10,069	5,820	1,713	947	1,259	1,486	1,036
40	Poori	6	6	5,166	1,962	330	186	306	178	171
41	Balasore	10	10	6,393	3,435	948	595	543	781	460
Chota Nagpore Division.										
42	Hazaribagh	17	17	7,807	5,233	1,976	1,243	1,254	1,391	1,538
43	Lohardugga	22	22	7,798	4,785	1,313	1,296	1,410	1,890	1,431
44	Ningbhum	4	4	2,337	1,017	465	456	623	641	516
45	Manbhum	16	16	6,142	4,843	1,013	912	1,183	1,317	1,355
	TOTAL FOR THE PROVINCE ...	645	645	234,369	189,568	92,861	66,848	72,688	97,364	70,256

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 24th May 1890.

of Districts of the Bengal Province during each month of the year 1889.

June.	July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
1,800	1,883	1,841	1,978	2,196	2,233	2,527	11,831	11,030	22,861	17.70	18.24	16.42	16.50	1
983	1,825	1,257	1,294	1,165	1,100	1,320	7,820	6,441	14,261	18.41	18.49	13.21	12.74	2
831	1,177	1,205	1,189	1,811	1,269	1,445	7,083	6,018	14,001	18.66	18.75	17.62	17.61	3
2,405	3,361	3,239	3,706	3,721	4,084	5,167	21,585	19,997	41,582	17.36	18.71	16.52	15.38	4
505	741	844	1,085	1,162	1,440	1,552	5,928	5,586	11,514	18.77	18.08	17.36	15.84	5
252	338	430	512	608	838	1,044	2,050	2,808	5,758	16.91	18.81	10.38	11.82	6
757	1,079	1,274	1,597	1,770	2,278	2,596	8,878	8,394	17,272	18.11	18.98	17.01	14.45	
335	499	520	621	625	791	1,068	3,819	3,125	6,944	12.06	9.79	10.92	9.68	7
1,163	1,599	1,687	2,147	2,016	2,434	3,504	12,581	10,313	22,894	14.61	12.69	13.08	14.13	8
1,541	1,924	1,811	1,981	2,448	2,396	2,688	14,173	11,777	25,950	17.53	13.85	15.07	23.53	9
2,205	2,868	2,450	3,035	3,917	4,623	6,580	22,367	19,223	41,590	23.31	19.61	21.44	19.56	10
1,340	1,915	1,631	2,023	2,367	2,136	2,264	12,443	10,870	23,313	21.21	16.97	19.00	20.54	11
941	1,447	1,354	1,619	1,749	2,279	2,841	9,655	9,383	19,238	17.33	13.34	17.61	18.09	12
2,231	2,274	2,068	2,910	3,270	4,018	6,330	21,039	17,050	38,089	26.89	24.52	25.74	23.13	13
1,550	1,948	1,726	2,162	2,021	3,240	4,218	14,269	14,244	28,513	24.53	21.01	22.74	26.65	14
2,959	3,017	2,735	2,583	3,380	4,670	6,691	25,482	20,848	46,330	23.82	20.28	22.07	23.52	15
716	947	799	1,010	1,310	1,282	2,236	7,414	6,687	14,103	19.92	18.51	19.22	22.32	16
1,303	1,653	1,291	1,984	2,644	2,418	3,509	14,335	11,244	25,579	22.11	18.91	19.50	22.16	17
309	294	350	360	294	279	330	2,047	1,523	3,569	22.90	22.95	22.93	15.87	18
1,215	1,350	1,042	1,090	1,427	1,617	2,263	9,127	7,869	16,996	20.82	20.46	20.18	20.42	19
1,368	1,736	1,295	1,976	2,470	2,800	3,068	14,790	12,635	27,425	14.30	11.71	12.96	13.18	20
1,093	1,446	997	1,301	2,205	2,702	3,545	12,358	10,032	22,390	15.44	12.21	13.72	11.46	21
1,560	1,970	1,558	2,037	2,005	4,026	5,474	16,711	14,345	30,556	16.65	15.46	16.07	17.88	22
2,722	3,939	2,649	3,199	3,860	4,034	6,093	24,420	19,468	43,908	15.09	12.98	14.36	11.64	23
1,036	1,626	1,480	1,802	1,870	1,850	2,613	10,103	9,706	19,809	19.00	16.15	17.40	12.15	24
1,441	1,911	1,529	1,297	1,357	1,919	3,056	10,571	10,583	21,154	25.45	26.09	25.77	17.37	25
1,396	2,077	1,668	1,071	1,807	2,197	3,296	12,205	10,592	22,797	16.88	14.20	15.05	11.72	26
1,653	2,519	3,766	3,715	3,810	3,047	2,876	15,388	14,352	29,740	17.90	16.03	16.97	15.08	27
2,401	4,173	3,216	5,747	4,467	5,100	4,348	23,117	22,174	45,291	22.15	20.60	21.31	20.71	28
2,547	3,547	4,044	5,278	5,473	4,589	3,993	21,333	19,870	40,202	22.44	18.59	20.45	20.40	29
1,543	2,468	2,594	3,121	3,987	3,388	3,568	10,674	13,357	30,031	13.17	10.14	11.63	9.34	30
2,534	3,138	3,462	3,969	5,042	4,065	3,866	20,480	17,178	37,658	16.80	12.84	14.36	10.81	31
1,433	2,197	2,047	2,167	2,375	1,951	1,735	11,880	8,723	20,603	10.92	7.27	9.06	8.13	32
1,125	1,473	1,414	1,576	2,136	2,602	2,969	10,914	8,818	19,732	12.53	10.36	11.46	13.48	33
2,405	4,583	4,109	5,687	7,368	5,833	5,437	25,051	23,288	48,339	25.34	23.27	24.54	22.09	34
2,340	3,611	3,350	4,162	5,113	4,343	4,160	21,741	19,444	41,185	22.20	19.67	20.93	20.31	35
2,201	2,488	1,070	1,923	3,453	3,123	4,639	21,205	16,831	38,036	23.69	18.46	20.59	18.90	36
558	1,095	690	843	1,347	1,435	1,843	8,447	6,616	15,063	24.54	18.20	21.20	20.21	37
1,338	2,337	2,398	2,114	1,959	1,615	1,772	11,810	8,890	20,706	15.03	11.30	13.20	12.36	38
981	1,205	1,023	1,755	2,066	2,683	3,797	10,084	10,577	20,661	11.48	11.53	11.50	8.81	39
188	186	209	229	284	406	516	1,780	1,663	3,443	3.98	3.76	3.87	3.20	40
460	753	795	1,028	1,065	1,293	1,840	5,177	5,331	10,508	11.21	11.01	11.11	8.67	41
1,470	2,140	2,248	2,332	2,547	2,345	2,091	12,020	11,009	23,029	22.05	19.66	20.34	18.60	42
1,342	1,631	1,969	2,541	3,223	1,776	1,793	11,635	9,729	21,364	14.60	11.97	13.27	13.31	43
445	515	569	518	497	401	510	3,430	2,776	6,226	15.81	12.23	15.69	15.43	44
1,147	1,636	1,530	1,454	1,537	1,076	1,395	6,334	7,091	13,425	15.86	13.30	14.57	11.56	45
62,670	88,512	83,149	96,784	114,086	114,238	139,637	580,268	511,269	1,091,537	18.03	15.43	16.73	15.87	

W. H. GREGG, *Dip. Publ. Health, Camb.*

Sanitary Commissioner for Bengal.

ANNUAL FORM No. X.—Deaths registered from BOWEL-COMPLAINTS

1	2	3	4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths from Bowel-complaints were reported.	Number in each District.	Number from which deaths from Bowel-complaints were reported.					
Burdwan Division.										
1	Burdwan	20	20	2,667	291	58	41	64	70	87
2	Bankura	13	13	5,525	870	43	60	63	79	66
3	Birbhum	9	9	3,280	92	20	11	11	13	7
4	Midnapore	29	29	14,810	1,407	261	276	192	207	181
5	Hughli	10	10	1,783	624	187	120	100	88	63
6	Seraampore	8	8	924	337	143	77	68	43	45
	Total of Hughli, including Seraampore ...	18	18	2,707	961	305	197	174	136	113
7	Howrah	8	8	1,406	827	287	213	194	175	138
Presidency Division.										
8	24-Pergunnahs	33	33	5,485	932	175	111	126	116	77
9	Nudda	31	30	8,129	154	34	18	34	31	24
10	Jessore	22	19	4,336	130	22	10	11	17	10
11	Murshedabad	28	26	3,561	108	31	23	27	23	23
12	Khulna	15	15	2,890	144	61	19	16	21	21
Rajahmugg Division.										
13	Dinajpur	17	14	6,921	82	7	16	10	14	9
14	Rajahmugg	14	12	5,159	62	9	1	4	6	8
15	Rangpur	17	17	6,737	119	11	3	10	9	20
16	Rogra	10	10	4,229	30	4	1	1	4	9
17	Pubna	11	10	3,763	125	19	6	14	23	30
18	Darjiling	4	4	635	155	53	29	34	52	104
19	Jalpaiguri	9	8	1,153	61	8	6	4	5	11
Dacca Division.										
20	Dacca	14	14	6,625	835	191	132	137	191	146
21	Faridpore	14	14	4,049	262	53	45	62	60	44
22	Backerwanj	17	17	4,336	316	65	49	59	66	32
23	Mymensing	18	18	15,719	175	94	69	63	70	72
Chittagong Division.										
24	Chittagong	14	14	1,390	344	140	94	63	77	89
25	Noakhali	10	10	2,628	209	46	24	61	92	45
26	Tipperah	13	13	6,481	533	113	78	90	131	84
Patna Division.										
27	Patna	17	17	5,980	1,085	187	198	105	190	213
28	Gya	14	14	6,300	234	36	20	36	49	37
29	Mahabadi	14	14	5,574	210	59	54	54	54	34
30	Mozufferpore	13	13	4,231	444	105	79	91	95	114
31	Darbhanga	11	11	6,359	433	103	97	116	113	129
32	Sarun	13	13	4,578	1,075	215	245	304	364	236
33	Chumparun	10	10	7,796	201	6	28	17	19	23
Bhagulpore Division.										
34	Monghyr	14	13	5,593	215	80	30	32	39	38
35	Bhagulpore	13	13	3,265	235	30	28	17	36	35
36	Purneah	14	11	3,703	63	7	12	32	36	29
37	Maldah	10	7	3,080	82	10	1	12	9	8
38	Sonthal Pergunnahs	6	6	12,350	243	20	21	28	43	49
Orissa Division.										
39	Outlack	13	13	10,080	3,498	369	330	225	390	391
40	Poori	6	6	5,166	1,571	194	164	160	119	125
41	Balasore	10	10	6,598	2,325	544	343	343	400	396
Chota Nagpore Division.										
42	Hazaribagh	17	17	7,807	871	325	30	50	73	63
43	Lohardugga	22	22	7,798	1,210	154	137	165	274	262
44	Singbhum	4	4	2,337	313	44	35	40	39	71
45	Manbhum	16	16	6,142	651	67	65	100	93	109
	TOTAL FOR THE PROVINCE ..	645	625	234,369	29,420	4,309	3,237	2,455	3,801	3,576

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 24th May 1890.

in the Districts of the Bengal Province during each month of the year 1889.

							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
88 68 18 179 80 55	122 84 16 275 107 101	112 79 9 213 135 111	51 87 6 263 160 129	66 82 4 249 155 152	69 83 5 239 159 165	90 84 10 338 170 197	565 424 78 1,720 786 667	347 269 47 1,153 725 629	912 692 125 2,873 1,511 1,296	·84 ·83 ·80 1·39 2·48 3·32	·47 ·50 ·11 ·90 2·08 3·54	·65 ·06 ·15 1·14 2·27 3·08	·46 ·40 ·19 1·48 2·12 2·86	1 2 3 4 5 6
135	208	246	289	307	324	373	2,453	1,354	2,807	2·96	2·57	2·79	2·38	
145	172	213	241	239	204	408	1,301	1,329	2,680	4·30	4·16	4·23	4·04	7
74 20 19 30 19	119 19 29 35 21	153 23 17 49 17	175 15 8 29 13	125 20 14 22 21	155 16 20 14 14	242 38 40 21 34	916 151 112 106 140	735 126 105 122 117	1,651 277 217 318 257	1·06 ·18 ·11 ·33 ·24	·90 ·14 ·10 ·19 ·22	·98 ·16 ·11 ·25 ·23	·92 ·23 ·09 ·90 ·26	8 9 10 11 12
8 12 12 6 10 138 16	13 5 20 6 138 5	4 1 8 4 75 6	11 3 11 5 51 11	8 18 4 8 45 18	8 20 16 1 32 13	13 30 16 1 38 13	80 77 90 32 104 429 62	41 40 45 20 70 240 54	121 117 138 82 174 709 110	·10 ·11 ·08 ·08 ·16 4·90 ·20	·05 ·05 ·04 ·05 ·10 5·12 ·19	·07 ·08 ·06 ·07 ·13 4·04 ·19	·17 ·11 ·18 ·11 ·25 4·14 ·18	13 14 15 16 17 18 19
126 41 30 91	121 27 40 52	122 17 23 59	153 28 20 42	222 40 36 77	274 64 64 64	383 73 121 108	1,186 301 339 808	1,023 249 388 332	2,208 550 627 840	1·14 ·37 ·34 ·32	·04 ·30 ·31 ·22	1·04 ·33 ·32 ·27	1·36 ·36 ·38 ·40	20 21 22 23
63 51 61	73 27 66	64 16 34	68 10 40	51 16 40	81 17 58	144 40 90	646 234 524	471 211 372	1,017 445 898	1·02 ·56 ·08	·78 ·52 ·40	·69 ·54 ·59	·07 ·40 ·01	24 25 26
161 51 54 111 77 223 27	275 76 63 147 128 280 29	276 91 73 141 107 273 53	301 100 88 181 186 330 41	287 53 67 148 179 371 41	300 42 55 167 149 307 22	201 30 35 136 135 240 17	1,430 395 418 820 822 1,858 192	1,185 226 265 645 627 1,500 120	2,624 621 681 1,465 1,449 3,358 312	1·68 ·37 ·43 ·48 ·63 1·71 ·22	1·32 ·20 ·26 ·48 ·46 1·25 ·14	1·40 ·29 ·34 ·56 ·55 1·48 ·18	2·02 ·52 ·38 ·67 ·90 1·53 ·19	27 28 29 30 31 32 33
46 30 5 4 34	109 70 13 5 65	100 61 7 5 51	66 87 7 5 39	71 113 11 4 43	54 54 5 6 28	49 53 14 2 26	408 437 98 51 290	231 258 70 20 160	689 695 168 71 450	·42 ·44 ·10 ·14 ·36	·38 ·26 ·07 ·05 ·20	·34 ·35 ·09 ·09 ·25	·40 ·79 ·11 ·06 ·31	34 35 36 37 38
220 143 286	535 231 690	572 308 645	499 315 676	431 244 485	392 285 502	568 393 697	2,006 1,547 3,527	1,931 1,158 2,553	4,897 2,705 5,879	3·37 3·46 7·20	2·10 2·04 5·27	2·72 3·04 6·21	2·22 2·46 4·89	39 40 41
57 278 78 120	80 560 108 195	100 575 80 168	64 562 87 104	CF 303 80 87	38 108 18 77	47 113 27 67	435 2,003 494 812	243 1,553 237 440	678 3,556 641 1,262	·79 2·51 1·78 1·34	·43 1·51 1·04 ·82	·51 2·20 1·41 1·18	·37 1·53 1·73 ·94	42 43 44 45
2,716	5,319	5,325	5,201	4,774	4,451	5,551	30,348	22,751	53,072	·92	·68	·80	·84	

W. H. GREGG, *Dip. Publ. Health, Camb.*,

Sanitary Commissioner for Bengal.

APPENDIX No. II.

**STATEMENT AND MAP ILLUSTRATING THE DISTRIBUTION
OF CHOLERA IN BENGAL,**

DURING THE YEAR 1889.

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Burdwan	1	Burdwan ... T.	34,080	January 1889 ...	December 1889 ...	93	February to April, June, July, November and December.	1	1 ...
	2	Kalna	10,901	Ditto ...	October ...	16	January, February, April to July and October.	1	1 ...
	3	Raniganj	10,937	February ...	September ...	137	February to September	1	1 ...
	4	Burdwan ... R. C.	27,330	Ditto ...	July ...	28	July ...	105	4 101
	5	Solanabad	71,709	April ...	December ...	4	Very slight ...	228	5 223
	6	Boyna	97,100	January ...	Ditto ...	63	January, March and September.	266	12 254
	7	Khandghose	54,991	February ...	Ditto ...	22	March and July ...	146	7 139
	8	Gankoor	102,748	January ...	Ditto ...	110	March, April, July and August.	375	12 361
	9	Sahebganj	75,171	March ...	Ditto ...	297	June to September ...	166	61 105
	10	Blood-Blood	79,073	February ...	Ditto ...	86	March, July, August and November.	309	13 196
	11	Ansgram	97,311	April ...	Ditto ...	230	June and July ...	232	35 197
	12	Kalim	81,583	May ...	June ...	24	June ...	266	5 261
	13	Purbusthali	82,070	March ...	September ...	148	April to August ...	251	19 232
	14	Montesaur	63,053	January ...	August ...	152	February to August ...	183	25 158
	15	Outwa	82,943	Ditto ...	September ...	770	January and March to August.	167	109 68
	16	Katugram	73,723	Ditto ...	November ...	445	January, April and June to August.	179	108 71
	17	Mongolekote	73,543	Ditto ...	September ...	449	March and May to September.	182	63 119
	18	Raniganj	135,646	February ...	August ...	225	February and April to July.	290	26 264
	19	Kakra	84,989	Ditto ...	July ...	60	February to April and July.	111	5 106
	20	Assensale	99,842	March ...	September ...	47	May and July ...	310	10 300
		District Total ...	1,391,823	January ...	December ...	3,430	March to August ...	3,687	510 3,157
Bankura	21	Bankura ... T.	17,805	March ...	September ...	79	March to August	1	1 ...
	22	Bissenpore	18,863	January ...	July ...	41	February to May and July	3	1 2
	23	Souanukhi	5,590	Ditto ...	October ...	33	January, March and June to October.	1	1 ...
	24	Bankura ... R. C.	169,636	February ...	December ...	115	April, May and July ...	727	83 694
	25	Gangajalghati	172,607	January ...	November ...	402	February and April to August.	755	62 693
	26	Anda	119,321	February ...	October ...	124	March, April and July ...	760	40 720
	27	Boopore	99,122	March ...	May ...	93	March to May ...	645	18 627
	28	Raipore	95,802	February ...	July ...	146	Ditto ...	679	15 664
	29	Simlapal	32,682	Ditto ...	August ...	132	February to May and August.	263	13 270
	30	Bissenpore	122,015	January ...	Ditto ...	184	February to April and June to August.	511	19 492
	31	Souanukhi	74,426	March ...	Ditto ...	86	May to August ...	263	23 239
	32	Indus	78,809	February ...	December ...	75	February to April and October.	231	15 216
	33	Kotalpur	94,964	January ...	September ...	87	January to April ...	463	19 444
		District Total ...	1,041,732	January ...	December ...	1,647	February to August ...	5,520	265 5,251
Birbhum	34	Soori T.	7,848	April ...	May ...	6	April and May ...	1	1 ...
	35	Do. R. C.	118,881	March ...	November ...	179	June to August ...	642	42 600
	36	Dubrajpur	126,646	April ...	September ...	38	August and September	465	6 459
	37	Bolpur	107,893	Ditto ...	Ditto ...	263	June to August ...	450	19 417
	38	Sakulpur	48,743	January ...	December ...	722	February to April, June to September and December.	220	95 125
	39	Labpur	83,457	Ditto ...	October ...	111	June to August ...	272	22 250
	40	Kampurhat	87,774	February ...	December ...	137	February, November and December.	291	12 279
	41	Moureswar	79,339	Ditto ...	Ditto ...	89	April, June, July and December.	403	17 386
Midnapore	42	Nalhati	134,807	January ...	August ...	63	May and June ...	530	16 514
		District Total ...	794,428	January ...	December ...	1,603	June to August and December.	3,260	230 3,030
	43	Midnapore ... T.	83,560	January ...	December ...	34	January and March to May.	1	1 ...
	44	Ghattal	12,038	Ditto ...	Ditto ...	19	January, February, May, July, August and December.	1	1 ...
	45	Chundrakona	12,267	Ditto ...	Ditto ...	33	March to May ...	1	1 ...
	46	Ranjihaupur	10,900	Ditto ...	September ...	17	January to April, June and September.	1	1 ...
	47	Midnapore ... R. C.	128,546	Ditto ...	December ...	225	January to April ...	1,540	48 1,392
	48	Biupur	90,704	Ditto ...	July ...	256	March to July ...	773	53 720
	49	Danton	128,447	Ditto ...	December ...	247	January, February, April, June, July, November and December.	620	119 501
	50	Dobra	70,126	Ditto ...	Ditto ...	72	January to March ...	765	23 742
	51	Garbetta	135,786	Ditto ...	Ditto ...	246	February to June and December.	1,006	64 942
	52	Gopiballavpur	139,928	March ...	Ditto ...	88	June ...	1,273	13 1,260
	53	Jharkram	69,782	Do. ...	May ...	5	Slight ...	607	3 604
	54	Keshpur	95,009	February ...	June ...	79	February to May ...	805	21 784
	55	Narainpur	199,199	January ...	December ...	147	January and March to June.	1,017	60 957
	56	Salboni	83,617	March ...	Ditto ...	63	May, July and August	408	21 387
	57	Sabong	201,734	January ...	Ditto ...	222	January, March and April.	745	71 674

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DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Midnapore— consolid.	58	Ghattal ... R. C.	71,455	January 1889 ...	September 1889 ...	120	January to July ...	339	16 323
	59	Ohandrakona ... "	64,805	Ditto ...	December ...	226	January to May ...	410	70 340
	60	Daspur ... "	115,269	Ditto ...	Ditto ...	115	January, February and April.	406	60 346
	61	Tamluk ... "	80,040	Ditto ...	Ditto ...	149	January to March, July and December.	371	17 354
	62	Maslandpur ... "	80,569	Ditto ...	Ditto ...	133	January, February, June and December.	232	44 208
	63	Nandigram ... "	121,596	Ditto ...	Ditto ...	170	January to March, August and December.	252	43 209
	64	Panchkura ... "	142,081	Ditto ...	Ditto ...	159	January to March, May to July and December.	648	62 586
	65	Sutahatta ... "	54,624	Ditto ...	Ditto ...	160	January, February, May to August and December.	247	40 207
	66	Contai ... "	130,554	Ditto ...	Ditto ...	401	January, February, May to July, November and December.	740	101 639
	67	Egra ... "	63,417	Ditto ...	Ditto ...	54	January, June and December.	376	27 349
	68	Potaspur ... "	87,324	Ditto ...	Ditto ...	74	February, April and December.	456	24 432
	69	Raghunathpur ... "	62,124	Ditto ...	Ditto ...	83	January to March, May to July and December.	395	43 352
	70	Bhagawanpur ... "	96,451	Ditto ...	Ditto ...	141	January to March, May, July and December.	400	32 368
	71	Khajri ... "	42,126	Ditto ...	Ditto ...	57	January to March and December.	133	15 118
		District Total ...	2,515,566	January ...	December ...	5,871	January to June and December.	14,810	1,107 13,703
Hughli	72	Hughli ... T.	31,087	January ...	December ...	90	January to December ...	101	43 58
	73	Jehanabad ... "	10,507	Ditto ...	July ...	11	January, February, April, May and July.	17	5 12
	74	Balagarh ... R. C.	48,218	June ...	December ...	39	July and December ...	159	8 151
	75	Polba ... "	43,924	March ...	Ditto ...	40	March, April, July and August.	168	11 147
	76	Hughli ... "	24,793	January ...	November ...	24	January, June and August to October.	70	8 62
	77	Dhanakhal ... "	93,537	February ...	December ...	24	Slight ...	386	13 373
	78	Pandua ... "	66,113	January ...	October ...	43	February, April, July and October.	187	13 174
	79	Jehanabad ... "	99,905	Ditto ...	December ...	78	January, March, November and December.	208	27 181
	80	Khanakul ... "	183,300	Ditto ...	Ditto ...	48	November and December.	223	13 208
	81	Goghat ... "	111,121	Ditto ...	Ditto ...	105	March, April and December.	274	33 242
		District Total ...	663,050	January ...	December ...	511	April and December ...	1,763	175 1,608
Serampore	82	Serampore ... T.	26,496	January ...	December ...	213	January to December ...	7	7 ...
	83	Haidobatty ... "	14,718	Ditto ...	Ditto ...	49	January, March, June, July and September to December.	11	7 4
	84	Uttarpara ... "	8,510	Ditto ...	Ditto ...	38	January, February, April to June and October to December.	1	1 ...
	85	Serampore ... R. C.	21,020	Ditto ...	Ditto ...	48	January, February, April and October to December.	11	7 4
	86	Singoor ... "	59,184	Ditto ...	Ditto ...	161	May to July and October to December.	175	39 136
	87	Haripal ... "	84,933	February ...	Ditto ...	57	July, November and December.	355	16 339
	88	Chanditala ... "	84,337	January ...	Ditto ...	139	January, November and December.	182	28 166
	89	Kishnagar ... "	55,107	Ditto ...	Ditto ...	40	February, August and December.	173	16 156
		District Total ...	251,955	January ...	December ...	735	January, April to July and October to December.	924	119 805
Howrah	90	Howrah ... T.	90,813	January ...	December ...	488	January to September November and December.	1	1 ...
	91	Bali ... "	14,514	Ditto ...	Ditto ...	61	January, February, May to July and October to December.	9	9 ...
	92	Doomjoor ... R. C.	128,477	Ditto ...	Ditto ...	259	January to March, November and December.	205	63 140
	93	Jagatballavpur ... "	77,539	Ditto ...	Ditto ...	96	January to March and December.	167	34 133
	94	Uluberia ... "	81,345	Ditto ...	Ditto ...	158	January to March, May and December.	363	47 316
	95	Amta ... "	109,969	Ditto ...	Ditto ...	107	January, March and December.	216	37 179
	96	Bagnan ... "	63,653	Ditto ...	Ditto ...	90	January to March, November and December.	210	38 181
	97	Shampur ... "	63,861	Ditto ...	Ditto ...	186	January to April, June, July and December.	316	53 263
		District Total ...	625,381	January ...	December ...	1,454	January to May, November and December.	1,486	234 1,252

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Pergunnahs	98	South Suburban T.	51,656	January 1889	December 1889	81	January, April, November and December.	54	15	39
	99	Baranagar	20,982	Ditto	Ditto	186	January to December	11	10	1
	100	Rajpore	10,576	Ditto	Ditto	25	January to March, May and July to December.	8	6	2
	101	Agarpara	22,730	Ditto	Ditto	40	January, March, November and December.	16	11	5
	102	Nowabganj	18,018	Ditto	Ditto	68	January to April, June to August and October to December.	17	7	4
	103	Naihati	21,533	Ditto	Ditto	96	February to August and October to December.	80	35	54
	104	Basirhat	20,459	Ditto	Ditto	80	January, March, April, June and July.	17	9	8
	105	Baduria	10,135	Ditto	Ditto	19	January, April, July and December.	18	8	13
	106	Manicktolla	28,618	April	Ditto	67	April to July, November and December.	64	19	45
	107	Cossipur and Chitpur.	26,394	Do.	Ditto	119	April to September, November and December.	6	6	1
	108	Tallyganj ... R. C.	47,793	March	Ditto	32	March	143	9	184
	109	Hudco-Budge	62,536	January	Ditto	42	March and December	178	55	143
	110	Bistapur	71,717	Ditto	Ditto	20	December	250	15	235
	111	Sonarpur	31,858	Ditto	Ditto	57	January to March, October and December.	163	27	136
	112	Bhangor	78,852	Ditto	Ditto	120	January, February and December.	258	47	211
	113	Barripore	75,830	Ditto	Ditto	193	January to March, May to July, November and December.	352	45	307
	114	Joy nagar	76,140	Ditto	Ditto	143	January to April and December.	225	40	185
	115	Canning	47,518	Ditto	Ditto	340	January to May, July and December.	240	52	188
	116	Dum-Dum	31,573	Ditto	Ditto	79	January to March, May to September, November and December.	115	29	86
	117	Barrackpore	21,060	September	September	1	Very slight	50	4	55
	118	Naihati	53,429	March	December	50	April, July, August and December.	137	12	176
	119	Barasat	73,131	January	Ditto	64	March, May and June	232	17	265
	120	Duganga	53,516	Ditto	May	12	May	154	1	153
	121	Habra	75,420	Ditto	December	48	January, April and May	245	17	228
	122	Basirhat	55,887	Ditto	November	71	March to June	167	30	136
	123	Hosainabad	67,227	Ditto	December	373	January to May, November and December.	185	64	121
	124	Baduria	104,606	Ditto	Ditto	135	January, May and June	196	53	163
	125	Hara	49,292	Ditto	Ditto	125	January to June	232	34	188
	126	Diamond Harbour	52,823	January	Ditto	77	January to April and December.	263	17	245
	127	Kalpi	90,319	Ditto	Ditto	120	January to March and December.	423	31	397
128	Debipur	43,455	Ditto	D	48	January and December	259	24	235	
129	Bankipur	107,275	Ditto	D	52	Ditto	382	14	368	
130	Mothurapur	56,463	Ditto	Ditto	47	January to March and December.	239	16	223	
District Total			1,673,362	January	December	2,978	January to June and December.	5,485	735	4,750
Nuddea	131	Kishnagar ... T.	27,477	January	December	35	April to June	1	1	...
	132	Nuddea or Nodadwip	14,105	February	Ditto	37	February, March, May to August and December.	1	1	...
	133	Ranighat	8,683	April	November	8	April, May, July and November.	1	1	...
	134	Santipore	29,697	January	Ditto	27	March to May, July and August.	1	1	...
	135	Kushtia	40,717	Ditto	December	40	January, March to October and December.	1	1	...
	136	Meherpore	5,731	Ditto	Ditto	8	January and December.	1	1	...
	137	Kishnagar ... R. C.	77,887	Ditto	Ditto	236	January to August and December.	168	59	109
	138	Hanskhali	45,340	April	November	19	June and November	94	9	85
	139	Kisacganj	82,701	January	March	13	January and March	55	5	48
	140	Chapra	63,509	March	June	88	March to May	106	19	86
	141	Nakashipara	59,762	January	December	430	January to August	187	71	56
	142	Kaliganj	51,192	Ditto	August	286	Ditto	115	40	75
	143	Ranaghat	75,732	Ditto	December	104	April, May, September and December.	199	35	138
	144	Santipore	24,177	February	Ditto	15	February, November and December.	57	5	48
	145	Chagda	64,620	January	Ditto	25	March and December	169	6	155
	146	Haringhatta	33,306	Ditto	Ditto	21	January to March and December.	92	4	88
	147	Kushtia	17,726	Ditto	June	28	April to June	30	7	16
	148	Kumarkhali	98,247	Ditto	December	116	January, April, May, November and December.	242	46	196
	149	Doulatpur	74,178	Ditto	Ditto	255	January and April to June.	123	55	67
	150	Nanpara	136,713	Ditto	Ditto	267	April to July	246	77	169
	151	Bhaluka	41,929	Ditto	Ditto	17	November and December	114	9	105
	152	Bhadulia	68,184	Ditto	Ditto	228	June to September, November and December.	133	61	94
	153	Chudanga	27,418	Ditto	July	48	January, April, June and July.	37	8	29

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Nudda— conold.	184	Alamdanga ... R. C.	89,947	January 1889 ...	December 1889...	158	June, July and December	156	40	116
	185	Damurhuda ... "	63,014	Ditto ...	July ...	39	January and June ...	113	13	100
	186	Kalupol ... "	39,396	March ...	December ...	67	March, April, June, July, September, October and December.	64	18	60
	187	Jihannagar ... "	40,120	January ...	November ...	24	May and July ...	77	8	69
	188	Meherpore ... "	66,934	Ditto ...	July ...	47	January, February, April, May and July.	112	19	93
	189	Tehatta ... "	89,160	Ditto ...	December ...	339	January to June ...	140	40	100
	190	Karimpur ... "	102,754	Ditto ...	Ditto ...	385	January and April to June ...	201	77	124
	191	Gangni ... "	74,965	Ditto ...	July ...	99	April to July ...	142	13	129
		District Total ...	1,655,721	January ...	December ...	3,617	January, March to July and December.	3,129	731	2,398
	Jessore ...	192	Jessore ... T.	8,403	January ...	December ...	11	January, February, April, June and December.	14	5	9
193		Jessore or Kotwali ... R. C.	158,859	Ditto ...	Ditto ...	226	January, February, May and December.	414	73	343
194		Bagherpara ... "	63,902	Ditto ...	Ditto ...	151	January, February, April, May and December.	190	33	158
195		Monirampur ... "	155,611	Ditto ...	Ditto ...	400	January, February, April, May and December.	346	63	283
196		Godkhali ... "	67,420	April ...	Ditto ...	51	April and June ...	147	11	136
197		Kaliganj ... "	80,242	January ...	February ...	64	January ...	231	27	204
198		Keshubpore ... "	85,150	Ditto ...	December ...	136	February to April and June.	152	85	117
199		Jhenida ... "	102,627	Ditto ...	Ditto ...	225	January, June, July and September to December.	276	54	223
200		Kotohandpur ... "	44,038	March ...	December ...	38	March, April and June...	97	10	87
201		Saikopa ... "	189,305	January ...	Ditto ...	82	January and August ...	369	5	364
202		Harinakundo ... "	41,866	Ditto ...	Ditto ...	235	January, May to September and December ...	120	43	77
203		Magura ... "	159,162	Ditto ...	Ditto ...	537	January, April and October to December.	448	126	322
204		Saikhia ... "	50,444	Ditto ...	June ...	101	January, April and May	132	27	105
205		Mohamadpore ... "	83,677	Ditto ...	December ...	284	January, April, November and December.	207	46	261
206		Narail ... "	131,362	Ditto ...	Ditto ...	634	January to June and October to December.	389	111	278
207		Kalia ... "	72,947	Ditto ...	Ditto ...	238	January, April, June, November and December.	146	88	58
208		Lohagarra ... "	103,863	Ditto ...	Ditto ...	498	January, March to May, November and December.	267	87	180
209		Bonrong ... "	59,668	February ...	November ...	80	February to June ...	138	31	127
210	Gaighatta ... "	50,223	January ...	July ...	76	January, March to July	112	9	103	
211	Ganrapota ... "	61,053	Ditto ...	April ...	36	January and March ...	159	23	133	
212	Moheshpur ... "	112,137	Ditto ...	December ...	100	January, March and April.	325	11	314	
213	Sarsha ... "	70,040	Ditto ...	July ...	220	February and April to July.	145	4	141	
	District Total ...	1,639,375	January ...	December ...	4,500	January, March to June, November and December.	4,836	963	3,833	
Murshadabad	214	Berhampore ... T.	23,605	January ...	October ...	109	January, March to May and August.	1	1	...
	215	Kandi ... "	10,661	Ditto ...	December ...	33	January to March, May, July to September and December.	1	1	...
	216	City Murshadabad ...	39,231	Ditto ...	November ...	207	January, March to May and July to October.	1	1	...
	217	Jungipore ... "	10,187	March ...	September ...	66	March to June and September.	1	1	...
	218	Burwa ... R. C.	67,912	January ...	December ...	144	January, March to May and December.	151	26	125
	219	Jellinghi ... "	108,508	February ...	July ...	226	March to June ...	214	50	164
	220	Doulatbazar ... "	39,368	January ...	May ...	88	January, April and May	126	27	99
	221	Sujaganj ... "	8,345	April ...	Do. ...	10	April and May ...	51	5	46
	222	Gorabazar ... "	12,633	January ...	Do. ...	69	January, April and May	52	13	40
	223	Goas ... "	78,423	March ...	August ...	134	March and April ...	236	23	214
	224	Hariharpara ... "	87,135	January ...	December ...	68	January, February, April, May, August and September.	123	17	106
	225	Nowada ... "	47,559	Ditto ...	Ditto ...	39	January ...	61	13	68
	226	Kandi ... "	19,242	Ditto ...	Ditto ...	53	January to March, August, November and December.	73	11	62
	227	Gokurn ... "	43,446	Ditto ...	Ditto ...	77	February, April, May, and December.	115	13	100
	228	Bharatpur ... "	108,025	Ditto ...	Ditto ...	634	January to May, July and August.	209	66	143
	229	Khergaon ... "	54,018	Ditto ...	September ...	181	January to March and September.	178	17	161
	230	Assanpur ... "	11,177	February ...	April ...	28	February and April ...	63	21	61
	231	Bhugwangola ... "	87,238	Ditto ...	July ...	605	February to May ...	265	77	189
	232	Kallaganj ... "	37,201	Ditto ...	June ...	42	February to April ...	128	13	115
	233	Shahannagar ... "	9,523	January ...	November ...	20	January, July and September to November.	59	9	50
234	Manullabazar ... "	1,879	March ...	December ...	3	March and December ...	6	1	7	
235	Savaridighi ... "	37,859	Ditto ...	June ...	97	March to May ...	145	23	123	
236	Raghunathganj ... "	37,269	February ...	November ...	237	March to May and September to November.	140	38	102	

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Murshadabad— conold.	207	Dewanaserai ... R. C.	55,036	January 1889	November 1889	353	February to July and October.	233	41	192
	208	Shamsherganj ... "	69,556	Ditto	September	368	January and May to July	237	71	166
	209	Suti ... "	66,556	May	November	264	May to August and October.	150	38	112
	210	Mirzapur ... "	45,498	March	June	103	March to June	165	19	146
	211	Burawan ... "	61,417	January	December	313	January to May, July to October and December.	236	63	167
		District Total ...	1,226,790	January	December	4,558	January to August	2,561	696	2,865
Khulna	212	Khulna... T.	6,202	January	December	50	January to July and October to December.	13	8	5
	213	Satkhira ... "	8,738	Ditto	November	20	January to July and November.	10	5	5
	214	Khulna ... R. C.	121,098	Ditto	December	273	January to May, November and December.	210	65	145
	215	Dumuria ... "	109,020	Ditto	Ditto	479	January to July	294	98	196
	216	Baitaghata ... "	87,501	Ditto	Ditto	119	January to July and December.	120	31	88
	217	Paikachha ... "	70,478	Ditto	Ditto	104	March to August	240	45	195
	218	Bagirhat ... "	137,818	Ditto	Ditto	370	January to May and December.	347	132	215
	219	Mollahat ... "	50,478	Ditto	Ditto	156	January to April, November and December.	121	35	86
	220	Rampal ... "	49,827	Ditto	Ditto	181	January to April and December.	178	44	134
	221	Moretilganj ... "	62,070	Ditto	July	86	January and March to May.	203	48	155
	222	Satkhira ... "	67,976	Ditto	Do.	196	January and March to July.	193	25	168
	223	Kaluria ... "	81,398	Ditto	October	221	April to July	150	41	109
	224	Magura ... "	49,212	February	December	57	March, June, July and December.	122	21	101
	225	Aasansuni ... "	62,412	January	Ditto	143	January to July	249	51	198
	226	Kaliganj ... "	140,130	Ditto	Ditto	418	January to May, November and December.	431	84	347
		District Total ...	1,079,948	January	December	2,942	January to July and December.	2,890	733	2,157
Dinajpur	227	Dinajpur ... T.	12,560	March	August	5	June and August	1	1	.....
	228	Dinajpur ... R. C.	199,626	April	December	27	Slight	75	5	726
	229	Birganj ... "	139,891	Do.	June	5	Very slight	195	5	190
	230	Thakurgaon ... "	220,397	May	July	51	June	581	7	324
	231	Manisankuil ... "	76,102	February	May	11	Slight	352	1	351
	232	Pirganj ... "	93,880	December	December	3	Ditto	441	3	438
	233	Hemtabad ... "	85,287	June	June	6	Ditto	519	3	326
	234	Nowabganj ... "	61,037	Do.	Do.	.....	Do.	408	.....	468
	235	Kaliganj ... "	94,882	April	May	12	May	453	1	421
	236	Bunihar ... "	81,877	January	Do.	59	January, April and May	630	11	604
	237	Patritolla ... "	60,235	Ditto	December	67	April and May	513	25	488
	238	Mohadobpur ... "	67,205	April	Ditto	64	April, May and December.	480	19	411
	239	Porsha ... "	48,593	Do.	Ditto	120	April, May and December.	306	30	275
	240	Patiram ... "	70,661	February	Ditto	21	February and May	684	7	677
	241	Gangarapur ... "	74,461	January	Ditto	30	May and July	443	7	436
	242	Chintamon ... "	62,053	May	June	22	May	381	3	378
	243	Parbatipur ... "	60,708	March	December	8	Slight	215	3	212
		District Total ...	1,514,346	January	December	491	April and May	6,691	131	6,790
Rajshahye	244	Rampore Beau- T.	19,791	January	November	98	March to May, July, August and October.	Data not furnished.		
	245	Rampore Beau- R. C.	31,098	April	December	67	April, May and July	422	53	369
	246	Tanore ... "	46,400	Do.	August	14	April	395	2	393
	247	Godagari ... "	43,790	March	December	100	March, April and December.	352	23	329
	248	Putia ... "	121,238	January	Ditto	79	April and July	295	21	274
	249	Charghat ... "	124,160	Ditto	Ditto	56	January	307	24	283
	250	Hachmara ... "	121,581	Ditto	July	80	January and May	401	12	449
	251	Natore ... "	153,003	Ditto	December	128	January and April to June.	405	17	388
	252	Singra ... "	112,743	Ditto	Ditto	186	January and April to July.	576	17	559
	253	Barigram ... "	121,584	April	Ditto	112	April, May and December.	356	20	336
	254	Lalpur ... "	84,982	March	April	4	Very slight	243	4	244
	255	Naugson ... "	85,940	January	December	130	January, April, May and December.	346	39	307
	256	Manda ... "	103,308	Ditto	Ditto	63	April, May and December.	625	7	618
	257	Panchupur ... "	80,980	Ditto	Ditto	103	January, April, May and December.	391	44	347
		District Total ...	1,339,603	January	December	1,179	January, April, May and December.	5,159	263	4,876
Rungpore	258	Rungpore ... T.	13,320	January	July	111	February to April and June.	1	1	.....
	259	Malganj ... R. C.	116,210	March	May	115	March to May	723	12	710
	260	Kaliganj ... "	135,607	Do.	December	149	April and May	583	12	574
	261	Nishatganj ... "	124,307	Do.	May	233	March and April	327	33	304
	262	Kumaraganj ... "	84,619	April	Do.	2	Very slight	139	2	137
263	Mithapukhar ... "	89,053	January	October	14	January	401	4	397	

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889—continued.

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DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Rungpore conold.	264	Pirganj ... R. C.	69,008	January 1889	January 1889	2	Very slight	384	1	383
	265	Dinla ... "	188,762	March	December	24	Slight	89	7	82
	266	Jaldhaka ... "	143,672	April	Ditto	3	Very slight	148	2	146
	267	Darwani ... "	143,360	April	December	31	April	185	9	176
	268	Barnbari ... "	128,017	March	June	17	Slight	743	3	739
	269	Nagashwari ... "	153,035	March	December	16	Ditto	548	3	545
	270	Ulipur ... "	185,705	April	November	7	Ditto	1,024	6	1,018
	271	Kurigram ... "	58,907	Do.	October	4	Ditto	72	6	66
	272	Govindganj ... "	189,027	April	November	24	Ditto	897	1	896
	273	Sadullapur ... "	179,366	January	December	15	January	429	4	425
274	Sunderganj ... "	91,409	July	December	15	December...	197	3	194	
	District Total ...	2,097,964	January	December	717	March and April	6,787	103	6,685	
Bogra ...	275	Bogra ... T.	6,170	April	October	7	April, August and October.	21	2	19
	276	Bogra ... R. C.	216,760	March	December	83	Slight	979	24	955
	277	Sherpur ... "	47,327	April	Ditto	14	June and December	264	8	256
	278	Sheraikandi ... "	103,228	Do.	Ditto	13	December	433	6	427
	279	Khetla ... "	40,023	March	Ditto	15	April	309	4	305
	280	Sihganj ... "	69,080	May	May	9	May	446	2	444
	281	Adamdighi ... "	93,705	January	December	44	December	817	23	794
	282	Panchbibi ... "	66,724	March	August	6	Very slight	559	3	556
	283	Nawalganj ... "	39,374	April	June	13	April	327	6	321
	284	Dhunat ... "	61,003	October	October	1	Very slight	254	1	253
	District Total ...	738,393	January	December	175	Very slight	4,229	76	4,153	
Pubna...	285	Pubna ... T.	15,207	February	December	41	February to May and December.	18	5	10
	286	Seraiganj ... "	21,037	January	Ditto	26	January, April, September, October and December.	16	10	6
	287	Pubna ... R. C.	120,186	March	November	68	April	487	20	467
	288	Sara ... "	54,245	Do.	Ditto	65	March, April, June and July.	205	3	202
	289	Dulai ... "	182,446	January	December	21	Slight	413	18	395
	290	Chattmohur ... "	133,407	Ditto	Ditto	125	April to June	460	43	417
	291	Mathura ... "	102,486	Ditto	November	30	April and May	238	21	217
	292	Seraiganj ... "	108,148	Ditto	December	93	October to December	439	23	416
	293	Shazadpur ... "	220,411	Ditto	Ditto	150	January, November and December.	527	55	472
	294	Ulapara ... "	171,711	Ditto	Ditto	63	April and December	499	12	487
295	Raiganj ... "	92,374	Ditto	Ditto	68	January, April and May	494	17	477	
	District Total ...	1,511,728	January	December	708	April and December	3,763	227	3,536	
Darjiling ...	296	Darjiling ... T.	7,018	April	August	70	April to August	19	12	19
	297	Darjiling ... R. C.	87,943	March	Ditto	231	March to July	121	17	109
	298	Kurseong ... "	24,179	April	September	180	April to September	69	31	52
	299	Phansidewa ... "	62,403	March	September	491	March to August	486	60	426
		District Total ...	155,645	March	September	491	March to August	695	60	635
Jalpaiguri ...	300	Jalpaiguri ... T.	7,947	February	August	19	February to August	1	1	...
	301	Ditto ... R. C.	67,471	March	July	82	May and June	41	4	37
	302	Silligoree ... "	79,712	Do.	Do.	181	March, May and June	281	35	246
	303	Patgram ... "	64,636	April	October	30	June	38	7	31
	304	Boda ... "	178,643	Do.	August	47	May and June	48	8	40
	305	Mynagoree ... "	77,329	February	November	200	April to July	109	26	83
	306	Kairanti ... "	33,747	January	August	235	January and March to August.	81	28	53
	307	Alipur ... "	82,088	April	April	3	April	64	1	63
	308	Saibari ... "	40,819	February	August	302	March to August	64	23	35
		District Total ...	582,890	January	November	1,189	March to July	1,183	133	1,050
Dacca ...	309	Dacca ... T.	80,161	January	December	208	January to May, July, November and December.	164	69	95
	310	Narsinganj ... "	12,561	Ditto	Ditto	121	January to June, November and December.	26	22	4
	311	Lalbagh ... R. C.	164,287	Ditto	Ditto	341	January to May and December.	301	146	155
	312	Kapasia ... "	119,515	Ditto	Ditto	235	January, February, April, May and December.	651	66	585
	313	Sabhar ... "	174,661	Ditto	Ditto	269	January to April, July and December.	696	49	647
	314	Nawabganj ... "	160,235	Ditto	Ditto	216	April, May and December.	407	25	382
	315	Narsinganj ... "	91,199	Ditto	Ditto	368	January to May and December.	685	40	645
	316	Raipura ... "	203,758	Ditto	Ditto	474	January, March to May and December.	538	50	488
	317	Rupganj ... "	164,159	Ditto	Ditto	480	January, February, April, May and December.	640	142	498
	318	Moonshiganj ... "	243,463	Ditto	Ditto	1,241	January to May and December.	441	186	255
319	Srinagar ... "	279,934	Ditto	Ditto	401	January, March to May and December.	419	181	238	

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889—continued.

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Dacca—conold.	320	Manickganj R. C.	184,106	January 1889 ...	December 1889...	211	January, April, May and December.	417	53 388
	321	Jafferganj ... "	143,013	February ...	Ditto ...	182	March to June and December.	420	32 388
	322	Harirampur ... "	100,009	January ...	Ditto ...	75	April and May ...	238	45 193
		District Total ...	2,116,350	January... ..	December ...	4,899	January to May and December.	6,525	1,059 5,536
Faridpore	323	Faridpore ... T.	10,263	March ...	December ...	14	March to June, November and December.	7	1 6
	324	Ditto ... R. C.	81,283	February ...	Ditto ...	59	April and December ...	201	19 181
	325	Bhushna ... "	107,415	January ...	Ditto ...	715	January to May, November and December.	418	97 381
	326	Awanpur ... "	100,227	Ditto ...	Ditto ...	364	January, March to May and December.	456	55 401
	327	Makaudpur ... "	156,933	Ditto ...	Ditto ...	691	January, March, April, November and December.	480	81 396
	328	Bhanga ... "	164,389	Ditto ...	Ditto ...	840	January to May and December.	410	111 291
	329	Madaripur ... "	165,917	Ditto ...	Ditto ...	449	Ditto ...	427	84 343
	330	Palang ... "	256,250	Ditto ...	Ditto ...	1,545	January to June and December.	490	256 234
	331	Gopalganj ... "	85,341	Ditto ...	Ditto ...	256	January to May, November and December.	143	33 110
	332	Shitchar ... "	110,043	Ditto ...	Ditto ...	583	January, March to May and December.	162	52 110
	333	Kotalipara ... "	66,153	Ditto ...	Ditto ...	146	January to June ...	217	23 194
	334	Goulundo ... "	100,050	Ditto ...	Ditto ...	298	January to May, November and December.	311	44 267
	335	Pangsa ... "	150,366	March ...	Ditto ...	296	April, May, November and December.	674	41 634
	336	Bellakandi ... "	65,069	January... ..	Ditto ...	205	March to May and December.	203	45 241
		District Total ...	1,631,734	January... ..	December ...	6,109	January to May, November and December.	4,669	945 3,721
Backerganj	337	Barisal ... T.	13,186	January... ..	July ...	64	January to April, June and July.	1	1 ...
	338	Ditto ... R. C.	113,733	Ditto ...	December ...	855	January to May ...	206	130 134
	339	Jhalakata ... "	143,416	Ditto ...	Ditto ...	371	January to April and December.	342	106 234
	340	Nalchiti ... "	78,081	Ditto ...	Ditto ...	186	February to May and December.	230	67 171
	341	Backerganj ... "	183,306	Ditto ...	Ditto ...	713	January to May ...	238	128 111
	342	Meidiganj ... "	145,711	Ditto ...	Ditto ...	988	January to July and December.	381	103 181
	343	Gournaddi ... "	184,192	Ditto ...	Ditto ...	431	January to June and December.	485	92 401
	344	Porozepur ... "	117,038	Ditto ...	Ditto ...	234	January to April, July and December.	242	69 171
	345	Matbari ... "	98,032	Ditto ...	June ...	676	January to June ...	187	133 51
	346	Surupkati ... "	160,234	Ditto ...	December ...	303	January to May, November and December.	448	88 364
	347	Bhandaria ... "	73,352	Ditto ...	Ditto ...	304	January to June and December.	68	53 11
	348	Patuakhali ... "	173,801	Ditto ...	Ditto ...	1,424	January to June ...	302	139 161
	349	Bauphal ... "	93,189	Ditto ...	Ditto ...	555	February to June ...	185	115 71
	350	Galsakhali ... "	98,732	Ditto ...	Ditto ...	1,077	January to May and December.	309	109 204
	351	Gelachipa ... "	59,037	Ditto ...	Ditto ...	1,073	February to June ...	204	87 117
	352	Bhola ... "	123,160	Ditto ...	Ditto ...	570	February to July and December.	201	70 131
	353	Barhanudi ... "	80,061	Ditto ...	Ditto ...	502	February to June and December.	207	58 149
		District Total ...	1,600,889	January ...	December ...	10,410	January to June and December.	4,336	1,613 3,711
Mymensing	354	Jamalporo ... T.	16,001	January... ..	December ...	26	April and May ...	69	5 6
	355	Kishorganj ... "	12,898	February ...	November ...	14	February, June and July.	49	2 4
	356	Tanvill ... R. C.	18,124	January ...	December ...	1,452	April to July ...	25	133 2
	357	Nasirabad ... "	232,843	Ditto ...	Ditto ...	251	January and May to July	1,452	24 1,428
	358	Ishwardganj ... "	239,452	Ditto ...	Ditto ...	281	January to July and December.	460	59 41
	359	Gaifargan ... "	117,759	May ...	Ditto ...	28	December ...	715	2 71
	360	Phulpur ... "	114,467	January... ..	Ditto ...	305	January to July and December.	3,203	43 3,160
	361	Netrokona ... "	471,653	May ...	June ...	41	May and June ...	614	6 60
	362	Durapur ... "	103,238	January... ..	December ...	219	April to June ...	717	60 65
	363	Jamalporo ... "	187,065	February ...	Ditto ...	78	May to July ...	1,352	13 1,339
	364	Sherpore ... "	161,372	January... ..	Ditto ...	66	May, June and December.	367	5 362
	365	Kishorganj ... "	122,705	Ditto ...	Ditto ...	317	February to June and December.	559	43 516
	366	Bazitpur ... "	214,233	Ditto ...	Ditto ...	583	January to May and December.	667	49 618
	367	Nikli ... "	122,459	Ditto ...	Ditto ...	238	January and April to June.	462	14 448

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Mymensing— consolid.	366	Altia or Tangail B. C.	442,119	January 1889 ...	December 1889...	333	April and December ...	1,675	40 1,635
	370	Gopalpur ... "	217,736	Ditto ...	Ditto ...	192	April, May and December	1,171	23 1,148
	371	Pingna ... "	76,262	Ditto ...	Ditto ...	163	April to June, November and December.	646	18 628
		District Total ...	3,026,943	January ...	December ...	4,777	April to June and December.	15,719	511 15,208
Chittagong ...	373	Chittagong ... T.	22,130	March ...	December ...	25	March to May and December.	26	8 18
	373	Chittagong ... R. C.	53,622	January ..	Ditto ...	2	Very slight	26	2 24
	374	Raujan ... "	144,380	February ...	Ditto ...	56	March and December ...	124	10 114
	375	Mirsaerai ... "	76,799	.....	.....	...	.....	124	... 124
	376	Kumaria ... "	58,811	March ...	May ...	20	March and April...	110	4 106
	377	Banskhali ... "	101,758	Ditto ...	September ...	60	March, April, August and September.	128	14 114
	378	Satkanyo ... "	147,515	May ...	August ...	15	Slight ...	195	6 189
	379	Fatikchhari ... "	101,500	March ...	May ...	19	April ...	105	7 98
	380	Putteah ... "	180,443	January...	December ...	149	January, May, June and December.	221	24 187
	381	Hathazari ... "	81,880	March ...	Ditto ...	20	April ...	63	3 60
	382	Cox's Bazar ... "	62,417	.....	.....	...	.....	80	... 80
	383	Masul ... "	29,168	March ...	March ...	15	March ...	27	3 24
	384	Chakariya ... "	38,825	.....	.....	...	.....	54	... 54
	385	Teknaf ... "	30,543	.....	.....	...	.....	107	... 107
		District Total ...	1,132,941	January ...	December ...	306	Slight ...	1,890	91 1,299
Noakhali ...	386	Sudharam ... T.	5,194	March ...	August ...	5	March, June and August	5	1 4
	387	Sudharam ... R. C.	96,184	January...	December ...	276	March to June and December.	426	23 399
	388	Lakshimpur ... "	113,321	Ditto ...	Ditto ...	526	January to June and December.	392	84 298
	389	Ranganj ... "	80,742	Ditto ...	Ditto ...	186	January, March to June and December.	420	69 361
	390	Boqumganj ... "	128,933	Ditto ...	Ditto ...	243	February to April, July, August and December.	510	45 465
	391	Bamni ... "	41,741	October ...	October ...	1	Very slight	46	1 45
	392	Sandip ... "	72,467	January ...	March ...	16	February and March ...	82	5 77
	393	Hattia ... "	40,295	March ...	December ...	150	March, April and December.	89	11 78
	394	Fenny ... "	132,097	Do. ...	Ditto ...	212	March to August ...	413	40 364
	395	Chhagalnaia ... "	109,276	January...	Ditto ...	76	April to July ...	245	22 223
		District Total ...	820,772	January ...	December ...	1,691	March to July and December.	2,028	325 2,303
Tipperah ...	396	Comillah ... T.	13,506	February ...	December ...	53	March to May, November and December.	23	17 5
	397	Brahmanberia ... "	17,643	January ...	Ditto ...	40	January to July and December.	20	7 13
	398	Comillah ... R. C.	125,879	Ditto ...	Ditto ...	183	March to May, July and December.	636	43 643
	399	Chandina ... "	78,521	Ditto ...	Ditto ...	102	January, May and December.	550	29 521
	400	Daudkandi ... "	143,222	Ditto ...	Ditto ...	349	January to April and December.	659	120 539
	401	Muradnagar ... "	162,322	Ditto ...	Ditto ...	308	January to May and December.	545	53 493
	402	Jagannathdighi ... "	103,218	Ditto ...	Ditto ...	263	January, March to July and December.	638	49 589
	403	Laksham ... "	86,872	Ditto ...	Ditto ...	267	January to June and December.	654	90 564
	404	Brahmanberia ... "	218,774	Ditto ...	Ditto ...	541	March to May ...	597	91 506
	405	Kaaba ... "	114,152	Ditto ...	Ditto ...	216	January to May and December.	424	40 384
	406	Nobinagar ... "	175,971	Ditto ...	Ditto ...	280	February to May and December.	363	51 311
	407	Chandpur ... "	193,988	Ditto ...	Ditto ...	1,167	January to June and December.	767	123 644
	408	Hajiganj ... "	90,893	Ditto ...	Ditto ...	165	January to May and December.	557	24 533
		District Total ...	1,514,361	January ...	December ...	4,024	January to June and December.	6,491	736 5,745
Patna ...	409	Patna ... T.	160,237	January ...	December ...	323	April to November ...	342	174 168
	410	Behar ... "	48,971	March ...	October ...	20	October ...	66	5 61
	411	Dinapore ... "	59,225	July ...	November ...	41	July, August and October.	9	5 4
	412	Barrh ... "	23,610	February ...	December ...	21	February, June to December.	4	4 ...
	413	Patna ... R. C.	22,377	.....	.....	...	.....
	414	Bankipur ... "	27,061	February ...	December ...	188	June to August ...	369	26 343
	415	Bikram ... "	180,362	June ...	October ...	221	July to September ...	668	23 645
	416	Masaudhi ... "	120,613	February ...	September ...	100	July to September ...	626	17 609
	417	Dinapore ... "	15,887	May ...	December ...	196	May to October and December.	116	31 85
	418	Maner ... "	98,516	June ...	September ...	345	July to September ...	275	46 230
	419	Barrh ... "	170,839	August ...	Ditto ...	9	Very slight	295	6 289
	420	Mokameh ... "	88,824	April ...	June ...	25	April ...	180	5 185
	421	Fatuba ... "	83,061	January ...	December ...	53	July to September and December.	311	27 284
	422	Behar ... "	234,212	July ...	September ...	94	July and August ...	761	13 748
	423	Silao ... "	91,477	Do. ...	Ditto ...	16	Slight	241	3 238

Data not separately furnished.

Statement prepared to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Barun—consolid.	487	Darauli ... R. O.	223,458	May 1889	December 1889	168	June, July, September and October.	552	29	523
	488	Rassantpur ... "	210,610	April	October	154	May and June	390	31	359
	489	Gopalganj ... "	260,388	July	November	160	August to October	449	17	432
	490	Baraigson ... "	284,681	February	December	150	July	559	10	549
		District Total ...	2,285,679	February	December	1,756	July to October	4,518	238	4,280
Chumbarun	491	Bettiah ... T.	21,263	June	October	6	September	1	1	...
	492	Bettiah ... R. C.	348,972	May	December	117	October	1,684	15	1,669
	493	Basaha ... "	140,900	April	August	96	May and August	635	13	622
	494	Lauria ... "	191,917	Do.	October	163	May and June	833	17	816
	495	Motihari ... "	176,748	July	Ditto	90	August and September	692	4	688
	496	Govindganj ... "	185,082	June	November	96	September and October	736	14	722
	497	Dihaka ... "	263,362	October	December	32	Slight	777	8	769
	498	Kasariya ... "	177,082	May	September	28	Do.	1,052	4	1,048
	499	Adapur ... "	134,986	August	November	111	September and October	532	16	516
	500	Madhuban ... "	106,086	June	October	6	Slight	615	3	612
	District Total ...	1,721,008	April	December	740	May, September and October.	7,766	95	7,671	
Monghyr	501	Monahyr ... T.	87,530	February	December	223	July to November	76	47	29
	502	Jamulpore ... "	18,503	June	November	108	June to October	14	14	...
	503	Shekhpura ... "	12,617	Do.	October	22	June, September and October.	1	1	...
	504	Monghyr ... R. C.	81,738	May	November	83	August to November	100	13	87
	505	Jamulpore ... "	6,261	September	Ditto	10	September to November	6	2	4
	506	Gogri ... "	368,964	April	December	209	May, June and September.	313	26	288
	507	Kharakpur ... "	143,679	August	November	469	August to October	331	40	291
	508	Suraigpura ... "	166,263	May	October	110	June, July and September.	288	36	252
	509	Boguseral ... "	378,704	Do.	December	383	June to August	509	41	468
	510	Terra ... "	203,633	Do.	Ditto	111	August	248	23	225
	511	Shekhpura ... "	186,963	March	September	108	May, June and August	563	32	531
	512	Shekundra ... "	122,389	June	October	68	June, July, September and October.	137	6	131
Bhagulpore	513	Jamui ... "	120,563	Do.	November	66	June and July	211	5	206
	514	Chakal ... "	109,540	March	Ditto	76	August to October	991	13	978
		District Total ...	1,969,774	February	December	2,045	June to October	3,583	293	3,290
	515	Bhagulpore ... T.	57,453	January	December	89	May, June, August to October and December.	61	45	16
	516	Bhagulpore ... R. C.	100,379	May	November	190	July to November	295	40	255
	517	Kumarganj or Sultanganj. ... "	98,427	April	December	440	June to November	334	41	293
	518	Kolgong ... "	192,237	March	Ditto	329	April to November	395	21	374
	519	Bihpur ... "	98,403	April	November	124	April, June and November.	70	7	63
	520	Supul ... "	299,042	January	December	55	Slight	331	5	326
	521	Pertabganj ... "	153,272	Ditto	November	778	March to May	194	42	152
Purneah	522	Bongong ... "	144,600	April	November	183	April to June and October.	280	14	266
	523	Madhepnr ... "	202,678	March	Ditto	262	March, April and November.	207	19	188
	524	Kiesenganj ... "	135,328	April	July	101	April to June	266	13	253
	525	Banka ... "	134,237	March	November	66	August and October	313	11	302
	526	Amarpore ... "	208,508	May	Ditto	204	July, August, October and November.	393	36	357
	527	Katuria ... "	77,444	April	December	216	June to August, October and November.	166	25	141
		District Total ...	1,906,168	January	December	3,005	April, May, July, August and October.	3,236	319	2,916
	528	Purneah ... T.	15,016	January	May	2155	March to May	4	4	...
	529	Purneah ... R. C.	138,704	Ditto	Do.	3,960	February to May	268	205	63
	530	Kasba Amour ... "	124,389	February	December	690	March to May, November and December.	424	72	352
Maldah	531	Dhamdaha ... "	109,391	Ditto	May	1,470	March to May	168	45	123
	532	Gondwara ... "	123,945	Ditto	Do.	2,032	March and April	144	51	93
	533	Arraria ... "	200,012	Ditto	June	3,777	February to May	333	163	170
	534	Motihari ... "	94,115	Ditto	August	1,227	March to May	203	88	115
	535	Raniganj ... "	107,552	Ditto	December	1,647	February to June	126	39	87
	536	Kiesenganj ... "	158,100	March	Ditto	185	April, June and October	311	125	186
	537	Sahadurganj ... "	190,142	February	Ditto	380	March, April, October and November.	367	58	299
	538	Kaliaganj ... "	277,059	Ditto	Ditto	255	March to May, October and November.	562	36	526
	539	Kadwa ... "	124,273	January	Ditto	1,400	March to May, October and December.	309	57	252
	540	Balarampur ... "	418,031	Ditto	Ditto	63	April	362	6	356
Maldah	541	Motihari ... "	54,456	Ditto	June	219	January and March to June.	132	21	111
		District Total ...	1,848,687	January	December	17,750	March to May and November.	3,703	1,073	2,630
	542	English Bazar T.	15,430	March	December	34	April, May, July and August.	38	15	23
	543	English Bazar R. O.	72,615	January	Ditto	221	April to June and August.	213	31	182
Maldah	544	Maldah ... "	50,894	Ditto	August	55	January, April and May	535	15	520
	545	Gajol ... "	54,317	Ditto	May	59	January, April and May	596	28	568
	546	Katna ... "	50,024	April	December	165	May, June, November and December.	343	23	320

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortuary registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE Affected by Cholera. Not affected by Cholera.	
Maldah— conoid.	547	Kharba ... R. C.	103,051	May 1889 ...	December 1889 ...	53	May and December ...	541	15	526
	548	Gomastapur ... "	52,810	January ...	June ...	117	March to May ...	248	32	216
	549	Kailiachak ... "	115,692	Ditto ...	December ...	279	January and May to July.	277	52	225
	550	Shibganj ... "	102,162	Ditto ...	Ditto ...	105	January, November and December.	241	37	204
	551	Nawabganj ... "	66,453	March ...	Ditto ...	53	April and May ...	288	16	242
		District Total ...	710,449	January ...	December ...	1,080	April to June, August and December.	3,080	264	2,816
Sonthal Per- gunnahs.	552	Deoghur ... T.	8,005	March ...	December ...	43	March to May, July to September and December.	111	43	68
	553	Dumka ... R. C.	363,186	Do. ...	November ...	128	August ...	2,909	17	2,892
	554	Rajmahal ... "	273,825	January ...	December ...	592	April to August ...	1,327	114	1,213
	555	Pakour ... "	204,019	March ...	Ditto ...	331	April to August and October.	1,254	127	1,127
	556	Deoghur and Jamtara. Godda ... "	339,605	Do. ...	October ...	717	May and July to September.	4,977	144	4,833
	557	...	348,493	April ...	November ...	1,560	April to November ...	1,763	189	1,576
		District Total ...	1,568,093	January ...	December ...	3,571	April to September ...	12,336	627	11,709
Cuttack	558	Cuttack ... T.	43,239	January ...	December ...	195	March to August and October to December.	123	59	69
	559	Kendrapara ... "	15,606	February ...	October ...	74	March to August ...	64	27	37
	560	Jajpore ... "	11,233	Ditto ...	December ...	101	March, May to August, October and November.	81	39	42
	561	Cuttack ... R. C.	155,335	Ditto ...	Ditto ...	1,353	February to December...	1,271	276	995
	562	Banki ... "	56,900	April ...	November ...	1,283	April to November ...	195	124	71
	563	Salipur ... "	249,179	March ...	December ...	1,495	March to December ...	780	324	456
	564	Jaggatsingpur ... "	218,001	February ...	Ditto ...	1,364	April to September, November and December.	1,233	301	931
	565	Tirtola ... "	183,877	Ditto ...	Ditto ...	1,381	April to September and December.	1,097	240	857
	566	Kendrapara ... "	176,324	January ...	Ditto ...	1,532	April to July, September, November and December.	1,576	273	1,304
	567	Patamundi ... "	109,401	March ...	Ditto ...	764	April to August and November.	720	136	584
	568	Aul ... "	91,015	January ...	Ditto ...	1,152	January to July, October and November.	573	236	337
	569	Jajpur ... "	239,503	February ...	Ditto ...	1,492	April to December ...	753	315	438
	570	Dharamasala ... "	248,792	Ditto ...	Ditto ...	2,216	Ditto ...	1,549	470	1,079
	District Total ...	1,795,065	January ...	December ...	14,887	April to December ...	10,099	2,519	7,580	
Poore	571	Poore ... T.	24,784	January ...	December ...	589	January, March to August, November and December.	1	1	...
	572	Poore ... R. C.	197,849	Ditto ...	Ditto ...	3,998	March to August, November and December.	1,317	665	652
	573	Pipli ... "	226,782	Ditto ...	Ditto ...	3,000	March to December ...	1,581	802	779
	574	Gope ... "	116,167	March ...	Ditto ...	733	April to August, November and December.	953	143	805
	575	Khurda ... "	269,478	January ...	Ditto ...	6,844	March to August and October to December.	929	805	124
	576	Bhanpur ... "	53,927	Ditto ...	Ditto ...	3,505	February to October ...	509	486	23
		District Total ...	884,487	January ...	December ...	18,669	March to December ...	5,290	2,907	2,383
Balasore	577	Balasore ... T.	20,265	March ...	December ...	213	March to August, November and December.	Data not separately furnished.		
	578	Balasore ... R. C.	87,420	January ...	Ditto ...	1,547	January, March to August and November.	561	267	294
	579	Soro ... "	197,508	Ditto ...	Ditto ...	2,308	January to August, November and December.	1,331	467	864
	580	Jellasore ... "	55,102	Ditto ...	Ditto ...	333	January, February, April to August, November and December.	425	97	328
	581	Baliapal ... "	84,226	Ditto ...	Ditto ...	918	February to July, November and December.	567	175	392
	582	Busta ... "	71,186	Ditto ...	Ditto ...	777	March to July, November and December.	475	168	307
	583	Shadrak ... "	169,972	Ditto ...	Ditto ...	2,237	January to August, November and December.	1,340	437	913
	584	Naundevpur ... "	71,354	Ditto ...	Ditto ...	1,325	February to July ...	477	123	254
	585	Dhamnagar ... "	132,321	Ditto ...	Ditto ...	1,567	January to August, November and December.	897	349	548
	586	Chandball ... "	51,926	Ditto ...	Ditto ...	1,225	January to July...	340	158	182
		District Total ...	945,280	January ...	December ...	12,963	January to August, November and December.	6,393	2,501	4,092
Hazariabagh	587	Hazariabagh ... T.	15,306	June ...	August ...	36	July and August...	11	7	4
	588	Hazariabagh ... R. C.	87,718	July ...	October ...	1,040	July to October ...	331	8	323
	589	Chatra ... "	64,018	March ...	September ...	60	August and September...	335	2	333
	590	Samodhar ... "	80,302	April ...	August ...	29	April and May ...	330	8	322
	591	Simoria ... "	87,029	July ...	September ...	24	July and August ..	246	1	245
	592	Kashmar ... "	47,094	June ...	July ...	3	Slight ...	465	2	463
	593	Chouparan ... "	70,437	May ...	June ...	44	May and June ...	495	5	490

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1889 - concluded.

1	2	3	4	5	6	7	8	9	10		
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the circles.	NUMBER OF THOSE—		
									Affected by Cholera.	Not affected by Cholera.	
Hazariabagh— consolid.	594	Jageswar ... R. C.	53,593	April 1889	October 1889	60	April, June, July and October.	480	11	469	
	595	Barhi	52,054	July	August	29	August	263	2	260	
	596	Hunterganj	56,954	March	September	39	May	227	4	223	
	597	Ramghar	72,953	June	Ditto	193	June to August	284	17	267	
	598	Tandowa	55,780	July	Ditto	73	August and September	336	7	329	
	599	Gowan	53,375	.....	.....	.....	.....	456	.....	456
	600	Paohamba	84,097	March	August	68	March, April and August	760	15	745	
	601	Damurhi	88,685	Do.	September	19	August	674	5	669	
	602	Kharakdiha	180,545	Do.	June	10	Very slight	1,051	3	1,048	
	603	Kodarma	73,802	.....	.....	.....	.....	515	.....	515
		District Total ...	1,104,742	March	October	780	June and August	7,807	94	7,713	
	Lohardugga ...	604	Ranchi... .. T.	18,443	May	September	231	May to September	1	1	...
		605	Ranchi... .. R. C.	122,151	June	Ditto	1,310	June to September	812	108	708
606		Sili	68,335	July	Ditto	48	July and August	263	5	258	
607		Tamar	98,696	Do.	August	69	July and August	282	17	265	
608		Lodhna or Kara ...	67,998	June	September	654	June to September	365	46	319	
609		Choria or Mandar ...	56,220	May	Ditto	305	May to September	240	48	192	
610		Torpa or Kunti ...	104,140	July	Ditto	215	July and August	392	18	374	
611		Salunat	66,223	June	October	135	June to October	570	22	548	
612		Barwa or Chainpure..	51,080	July	September	120	August and September	473	12	461	
613		Korambi or Sasaal ...	80,073	Do.	October	741	July to September	322	50	272	
614		Lohardugga	122,023	June	September	447	June to September	627	29	598	
615		Paikot	108,719	Do.	October	113	June and August to October.	199	6	193	
616		Biru or Kochadoge ..	66,061	August	August	2	Very slight	173	1	172	
617	Basia	88,234	June	September	67	July and August	288	6	282		
618	Daltonganj	64,303	August	Ditto	14	August and September	598	3	595		
619	Garwah	78,890	.....	.....	.....	.....	367	.....	367	
620	Ramkunda or Banks..	64,300	.....	.....	.....	.....	188	.....	188	
621	Chatrapur	36,591	May	September	60	May to September	252	16	236		
622	Patun	79,635	August	Ditto	79	August and September	654	8	646		
623	Barasara or Mohowada	14,667	Ditto	Ditto	37	Ditto ditto	183	19	183		
624	Hossainabad or Majhwar	103,515	April	October	169	May to August	469	27	472		
625	Manika or Lateahur ..	46,993	May	September	115	May, June, August and September.	227	1	226		
	District Total ...	1,609,244	April	October	5,213	June to September	7,798	443	7,355		
Singbhum ...	626	Chaibassa T.	6,008	May	September	12	May to September	1	1	...	
	627	Chaibassa R. C.	205,652	January	December	141	July to October	812	47	765	
	628	Chackardhurpur	76,408	June	November	256	June to October	380	49	331	
	629	Ghatasila	165,709	January	August	100	April and May	1,144	16	1,126	
	District Total ...	453,775	Ditto	December	509	May and July to September.	2,337	115	2,222		
Manbhum ...	630	Purulia T.	9,304	March	August	181	March to August	1	1	...	
	631	Purulia R. C.	177,487	February	September	435	April to August	844	65	779	
	632	Raghunathpur	108,668	March	Ditto	224	April, June to August	452	18	434	
	633	Jhalda	91,591	January	August	168	May to August	418	32	386	
	634	Manbazar	68,615	Ditto	Ditto	32	May	435	10	425	
	635	Para	39,740	April	September	199	April to August	102	25	127	
	636	Baghmundi	33,884	Do.	April	5	Slight	177	1	176	
	637	Ichagar	64,243	January	September	169	March to May and July to September.	348	40	302	
	638	Barabhum	133,847	March	July	26	April	787	8	779	
	639	Gourandi	45,793	February	August	150	April and June to August	228	24	202	
	640	Chase	80,173	May	October	201	May to August	626	28	498	
	641	Gobindpur	39,073	March	August	30	April and July	263	6	267	
	642	Niraha	50,327	Do.	Ditto	31	March, July and August	351	11	320	
643	Topchanchi	48,013	Do.	November	44	May, June and August to October.	351	13	339		
644	Toondi	18,417	April	.....	.....	.....	344	.....	344	
645	Jharis	34,854	.....	September	22	April and May	363	4	359	
	District Total ...	1,069,223	January	November	1,915	April to August	6,142	285	5,857		

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 24th May 1890.

W. H. GREGG, *Dip. Publ. Health, Camb.*,*Sanitary Commissioner for Bengal.*

APPENDIX No. III.

SUMMARY OF SANITARY WORKS, IMPROVEMENTS, &c.,
CARRIED OUT IN TOWNS AND DISTRICTS, INCLUDING
PRIVATE CHARITIES,

DURING THE YEAR 1889.

BY PRIVATE INDIVIDUALS.

IN THE TOWNS.				IN THE INTERIOR OF THE DISTRICTS.			BY PRIVATE INDIVIDUALS.		
District.	Name of Town.	Nature of work.			District.	Nature of work.	Cost.	Nature of work.	Cost.
		Completed.	In progress.	Cost.					
Burdwan	Burdwan	Construction of urinals ...	Rs. 114	Drainage survey of the town ...	Burdwan	The District and the Local Boards constructed certain culverts and road approaches and several important roads in the district at a total cost of ...	Rs. 3,900 5/6	Eight tanks excavated ... Two tanks re-excavated ...	...
	Raniganj	Extension of water-supply drains ...	1,115	Nil.		Rs. 1,13,305			
	Culna	Construction of hydrant drains ...	611	Nil.		1,00			
		Soling and metalling of a road ...	988	Construction of a public latrine ...					
Bankura		A tank excavated ...	2,295						
		A pit filled up ...	106						
	Bankura	Kutchas drains opened ...	93	Nil	Bankura	No sanitary works except some village roads which were under construction were undertaken during the year ...	....	Nil.	
		Construction of Rajgram market building ...	893						
Birbhum		Two culverts ...	40						
		A urinal ...	8						
	Bissenore	Roadside drains constructed ...	476	Nil.					
		Construction and improvement of roads ...	657						
Midnapore	Sonamukhi	Improvement to roadside drains ...	240	Nil.					
	Soori	Nil	.....	Jubilee market	Birbhum	No sanitary works except a small pipe drain for draining a certain bustee in Burdwan. Nil sub-division at a cost of Rs. 27 were undertaken ... Two roads ...	57 Not stated.	Nil	Nil.
	Midnapore	Seven culverts constructed ...	181	Nil	Midnapore	The District Board of Midnapore re-constructed two old tanks, and sunk a well ...	321	Twenty-eight tanks excavated Thirteen tanks re-excavated A pucca drain A road-watering cart Four bullocks Construction of a platform for putting iron latrine ...	8,693 6,129 100 7,460 400
		Two causeways ...	17						
Tamluk		A pucca drain ...	15						
		One road-watering cart ...	228						
		Four bullocks ...	54						
		Construction of a platform for putting iron latrine ...	100						
Tamluk		Twelve roads and lanes repaired ...	930	Nil.					
		A latrine constructed ...	146						
		A tank repaired ...	23						
		Wooden repaired bamboo bridges repaired ...	4						
Tamluk		Conservancy carts repaired ...	21						
		Construction of pucca walls round a well ...	84						
		A tank, called Jubilee tank, excavated ...	292						
		Culverts repaired ...	32						
Tamluk		Two roads metalled ...	271						
		Drains cut ...	80						
		Cook-shed of the dispensary building repaired ...	21						

[illegible]

District	Taluk	Village	Description of work	Cost in Rs.	Beneficiaries	Remarks	Total cost in Rs.	Remarks	Total cost in Rs.
Howrah	Howrah	Kotrung	Planting of trees on road-side	121					
			Cost of 200 feet "placed" stone for obstructing the flow of rain-water	324					
			Four lanes and a street	910					
			One twenty-seated latrine	2,065					
			Six eight-seated latrines	3,936					
			Two six-seated ditto	1,040					
			One two-seated ditto	285					
			Seven urinals	1,235					
			One six-chambered urinal	798					
			Three lanes constructed	1,081					
24-Pergunnahs	24-Pergunnahs	South Suburban	Ditto and roads repaired	119					
Nudda	Nudda	Kumarkhali	A well	25					
			A drainage culvert	78					
			Pucca ghat in the municipal tank	514					
			Two sets of masonry latrines	435					
			Pucca road	275					
			Masonry well	500					
			Foundation of a pucca drain	484					
			A drain constructed	17					
			A masonry well	265					
24-Pergunnahs	24-Pergunnahs	North Dum Dum	Two roads metalled	308					
24-Pergunnahs	24-Pergunnahs	North Barackpore	A road extended	264					
			A culvert	54					
			Revetting ground road	80					
			Seven pipe culverts	70					
			Two lanes including two masonry culverts	1,825					
24-Pergunnahs	24-Pergunnahs	North Barackpore	A latrine	441					
24-Pergunnahs	24-Pergunnahs	Naihati	Nine roads metalled	3,000					
			A road constructed	100					
24-Pergunnahs	24-Pergunnahs	Barasat							
24-Pergunnahs	24-Pergunnahs	Gobardanga							
24-Pergunnahs	24-Pergunnahs	Taki							
24-Pergunnahs	24-Pergunnahs	Basirhat	Municipal office building	783					
			A drain	59					
24-Pergunnahs	24-Pergunnahs	South Barackpore	Culverts constructed	187					
24-Pergunnahs	24-Pergunnahs	Kumarkhali	A well	25					
			A drainage culvert	78					
			Pucca ghat in the municipal tank	514					
			Two sets of masonry latrines	435					
			Pucca road	275					
			Masonry well	500					
			Foundation of a pucca drain	484					
			A drain constructed	17					
			A masonry well	265					
24-Pergunnahs	24-Pergunnahs	Kushia							

IN THE TOWNS.			IN THE INTERIOR OF THE DISTRICTS.			BY PRIVATE INDIVIDUALS.		
District.	Name of Town.	Nature of work.			District.	Nature of work.	Cost.	
		Completed.	In progress.	Cost.				
Jessore	Jessore	A masonry well ...	A pucca drain ...	Jessore	Nil	Rs.		
		A latrine ...	Nil.					
		A sewer ...						
		A pucca drain ...						
Kotechandpore		A tank excavated ...						
		Three wells sunk ...						
		Two culverts ...						
		Three wells sunk ...						
Mukeshpur		Pucca drain ...						
		A latrine for women ...						
		A pucca drain ...						
		Construction of sheds for molters, cattle and for godown articles ...						
Murshidabad	City Murshidabad.	Three pucca drains ...						
		Two pucca culverts ...						
		A well ...						
		Roads metalled ...						
Khulna	Jessore	Completion of the earth-work of Mr. Clay's tank with its fencing and a pucca ghāt ...						
		Quartering of rubbish, &c., for constructing a metalled road ...						
		Manufacture of bricks, &c., for roads, culverts, &c. ...						
		Construction of roads ...						
Dinajpur	Sethi	Construction and repair of roads ...						
		Pucca drains constructed ...						
		A tank excavated ...						
		Earthworks ...						
Rajshahi		Construction of a bamboo bridge across the shallow channel in the river to obtain drinking water ...						
		A ditch filled up ...						
		Completion of the filling up of a ditch which was commenced last year ...						
		Extension of two drains ...						

Location	Particulars	Cost	Remarks	Value
Bangalore	Construction of a track on river bank	8		
	A road	1,915		
	A road	137		
	A kutcha road	97		
Mattore	Two kutcha roads			
Bangalore	25 chains of kutcha drains	13		
	An earthen zig wall	8		
	A pucca sewer drain	107		
	Four pucca culverts	33		
Bogara	Six masonry wells	535		
	A pucca latrine	25		
	A pucca culvert	50		
Sherpur				
Pubna	Clearing jungles on the sides of roads	39		
	Cost of filling pits	19		
	A well	13		
	Two temporary bridges were constructed over the river (chantries for the protection of river vessels)			
	Removing "moss" from the river water	341		
	Cost of constructing a spar on the river bank	40		
	A road widened	749		
	A kutcha road	52		
	Cost of constructing two masonry flood gates	108		
	Three culverts	583		
	A masonry well	782		
	A tank re-excavated	369		
	A track road	490		
	A hut at the dispensary	10		
		49		
Serajganj				
Darjiling	Three stone drains proposed	1,943		
	Extending two outlet drains	53		
	Construction of stone drains, drains with Mir-shaps, stone soles, an outlet and a saucer drain			
	A revetment and a drain	2,680		
	Preparing the necessary plans, sections and estimates for laying a 4' inch cast-iron pipes from one spring to another	16		
	Preparing the necessary plans, sections and estimates for running a 4' pipe from one spring to another	160		
	Laying a line of 4' cast-iron pipes to carry urines	164		
	Laying a line of 1' pipe and constructing a stone tank to flush the Boudha Garden drain	705		
		146		
Bangalore	Construction of bricks for pucca houses for the Dispensary hospital	142		
			
Bogara	Bogara Charitable Dispensary building	364		
	A road	50		
Pubna				
Darjiling	Constructing and clearing drains in the Terai	105		
	Improving tanks in the Terai	317		
	A well at Sillikuri	846		
	Jungle cutting and other improvements at Kalimpong	132		
	Boat-sheds	129		
	Cleaning the bazars at Kalimpong and Teesta	360		
Bangalore	A large and handsome pucca well was sunk in the Kurigram bazar by the District Board	700		
	The Local Board excavated a canal connecting with a bheel for the purpose of efficiently draining the town of Gailbanda	Not stated		
Bogara	Completion of the Jaypur-Mangalbari road by the District Board	1,294		
	The Board also constructed eight timber and iron bridges at a total estimated cost of Rs. 12,024 and one masonry culvert at Rs. 503	12,527		
	A tank cleared by the Board	514		
Pubna	The Local Boards excavated two tanks at a cost of Rs. 52 and Rs. 70, respectively, and four ring wells at a total cost of Rs. 55	1,298		
Darjiling	Thirteen tanks were excavated by thirteen private individuals at different villages of the district at a total cost of	Nil.		
		15,360		

IN THE TOWNS.				IN THE INTERIOR OF THE DISTRICTS.				BY PRIVATE INDIVIDUALS.			
District.	Name of Town.	Nature of work.			District.	Nature of work.	Cost.	District.	Nature of work.	Cost.	
		Completed.	Cost.	In progress.							
Darjiling— contd.	Darjiling— contd.	Extension of the main pipe line to provide more water ...	Rs. 6,606								
		Putting up a hydrant ... The sweepers' bathing tank improved so as to suit males and females ... Improvement to sheep slaughter-house ... Two meat shops ... Price of water-pipes including railway freight ... Railway freight of tools purchased for water-works ... Purchase of buckets and disinfectant ... Repair of dispensary and Native Doctor's quarters, cholera-shed, latrines, urinals, hydrants, &c. ... Petty repairs of municipal roads ...	66 258 429 715 197 7 229 309 21	Nil							
Jalpaiguri	Jalpaiguri	Nil ...	.....	Nil	Jalpaiguri	Nil	.....	Jalpaiguri	Nil.	.....
Dacca	Dacca	Construction of drains ... Ditto of pipe ... A drain repaired ... Four lanes widened ... Acquisition of lands for mehters' passage to private latrines ... Acquisition of land for drainage purpose ... Acquisition of land for water-works extension ... Acquisition of land for Jubilee Street extension ... Purchase of Dhaleswary sand for filters ... Bridges repaired ... Cost of printing notice boards regarding vaccination and vital statistics ... Two vaccination sheds ... A hall excavated ... Improvement to a garden well ... A privy ... Two Horbury's patent latrines ... A shed for bullock-keepers ... Mehters' shed repaired ... Recruit of mehters for general conservancy ... A bullock depot repaired ... Bullocks' hospital repaired ... Trenching ground shed ... Mehters' passage ... Water-works verandah ... Sewing workshop ... Burning ghat shed ... Burning of a burning ghat site ... Quartermen's hall improved ...	2,885 Not stated. 228 326 717 71 318 76 192 430 39 83 12 53 47 450 12 267 1,500 107 64 29 109 243 36 46 53	Water-supply extension ...	17,000	Dacca	Nil	.....	Dacca	Baboo Kali Nath Bose, a zemindar, excavated a tank at Srinagar, at a total cost of ... At village Kalakopa a tank with two masonry walls were excavated by one Hira Kripato Poddar ... Baboo Lallt Chunder Sen, a doctor, excavated a tank with a masonry flint at Surgungo ...	.....................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614																																																																																																																																																																																																																																																																																																																																																																																																		

IN THE TOWNS.			IN THE INTERIOR OF THE DISTRICTS.			BY PRIVATE INDIVIDUALS.			
District.	Name of Town.	Nature of work.		District.	Nature of work.	Cost.	District.	Nature of work.	Cost.
		Completed.	In progress.						
Mymensingh - civild.	Jamulpore ...	Three wooden bridges on road ...	108	Nil.	Nil.	Nil.	Chittagong ...	Three tanks excavated village road ...	Not stated
	Nasirabad ...	Reclamation of lands with a view to sanitary improvement ...	308	Nil.	Nil.	Nil.	Chittagong ...	The Court of Wards spent in cleaning a tank ...	240
		Three wells sunk ...	2,808						
		A pucca drain ...	50						
	Netrokona ...	A public latrine at Government cost ...	47	Nil.	Nil.	Nil.	Chittagong ...	A tank re-excavated ...	30
	Mattagachia ...	Construction and repair of roads, culverts and bridges ...	2,308				Chittagong ...		Not stated
		A road metalled ...	61						30
Chittagong ...	Chittagong ...	A culvert ...	187				Chittagong ...		Not stated
		A wooden bridge on a road ...	31						30
Northali ...	Northali ...	A bund was cut between two Government tanks in front of Collector's kutchery and several cesspools and drains in the kutchery compound were filled up ...	238				Northali ...		Not stated
		A pucca road constructed ...	50						30
		Roads metalled ...	235						Not stated
		Drains filled up ...	96						30
		Cesspools filled up ...	131						Not stated
		Filling up and narrowing several drains ...	240						30
		Construction of portions of pucca drains ...	186						Not stated
		A portion of a khail deepened ...	9						30
Tipperah ...	Comilla Brahmanbaria ...	Nil					Tipperah ...		Not stated
		Three drains ...	90						30
		Do. drains ...	64						Not stated
		A culvert ...	40						30
		A bridge over a road ...	87						Not stated
Patna ...	Patna ...	Eight drains constructed	1,899				Patna ...		Not stated
		Urinals	330						30
		Roads metalled with stone	2,437						Not stated
		A matras removed	478						30
		Construction of railing on dak bungalow road	33						Not stated
		Culverts constructed	51						30
		Construction of a parapet round a well ...	15						Not stated
Gya ...	Gya ...	Nil					Patna ...		Not stated
		Three drains	119						30
		A bridge	773						Not stated
		Three drains draining	1,708						30
		Construction of an indoor patient's house	289						Not stated
		In the old town of Gya a cholera hospital was constructed by the Gya Lying-in-house Committee for treatment of patients							30
Daudnagar ...	Daudnagar ...	Construction of a wooden bridge over the Tila river on the Gya and Nawada road	29,356				Gya ...		Not stated
		Constructing original works the nature of which is not stated	67,796						30
		Maintenance of roads	20,388						Not stated
		Arboriculture	4,780						30

Not stated.

IN THE TOWN.			IN THE INTERIOR OF THE DISTRICT.			BY PRIVATE INDIVIDUALS.		
District.	Name of Town.	Nature of work.			District.	Nature of work.	Cost.	Ra.
		Completed.	Cost.	In progress.				
Muzhy- congd.	Jamsalpur ..	Purchase of six iron carts for carrying water and repairing night-gill ..	1,015		Bhagalpur ..	Besides the further extension of the Bhagalpur municipal works and construction of several bridges and roads, no important sanitary works were executed in the district during the year.	
	"	A pucca well ..	183					
	Jamsui ..	Construction of a retaining wall for protection of a road ..	34					
Bhagalpur	"	A well ..	130					
	Bhagalpur ..	Thirteen culverts ..	370	A corrugated iron sheet lining ..				
				Extension of filtered water-supply ..		35,316		14,090
Purneah	Purneah ..	A timber bridge over a stream ..	200		Purneah ..	Nil	
	"	A culvert extended ..	116					
	Kishanganj ..	Construction of Diapansary building ..	4,390					
Malda	"	Three wells sunk ..	2,118		Malda ..	Roads metalled ..	3,130	
	"	Drainage works ..	309					
	"	A pucca drain ..	81					
Sahibganj	"	Construction and repair of roads and lanes ..	586		Sahibganj ..	Bridging ..	11,200	
	"	Pucca drains constructed ..	348					
	"	A kutcha pool ..	9					
Sahibganj	"	A tal bridge repaired ..	49		Sahibganj ..	Kutcha drain ..	400	
	"	Two bundhs constructed and repaired ..	37					
	"	A road metalled ..	307					
Cuttack	"	A lane dilapidated ..	222		Cuttack ..	Tanks excavated and wells sunk ..	Not stated	
	"	Building a bridge ..	23					
	"	Drainage work to a bridge ..	46					
Cuttack	"	Improvement to a well ..	7		Cuttack ..	A few village roads were also constructed.		
	"	Pucca culverts ..	168					
	"	Two wells sunk ..	119					
Cuttack	"	Three wells ..	271		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	A lane widened ..	76					
	"	Three culverts ..	39					
Cuttack	"	Improvement to a well ..	7		Cuttack ..	A few village roads were also constructed.		
	"	Two pucca culverts ..	76					
	"	Nil					
Cuttack	"	A portion of a road metalled and a coating of potash given to a part of it ..	1,146		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage works ..	2,525					
	"	Drainage work ..	250					
Cuttack	"	Masonry structure on the mouth of a drain with a reservoir for filthy water ..	38		Cuttack ..	A few village roads were also constructed.		
	"	A pucca culvert ..	34					
	"	Metalling of a road ..	1,181					
Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
	"	Drainage work ..	250					
Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
	"	Drainage work ..	250					
Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
	"	Drainage work ..	250					
Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
	"	Drainage work ..	250					
Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
	"	Drainage work ..	250					
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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Cuttack	"	Drainage work ..	250		Cuttack ..	Several roads and bundhs, wells and tanks, channels and culverts, &c., were constructed by Government from 10 per cent. Fund and Provincial revenue, by the District Board and by Collector from Khas Mehal Fund at a total cost of ..	18,677	
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	"	Drainage work ..	250					
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APPENDIX No. IV.

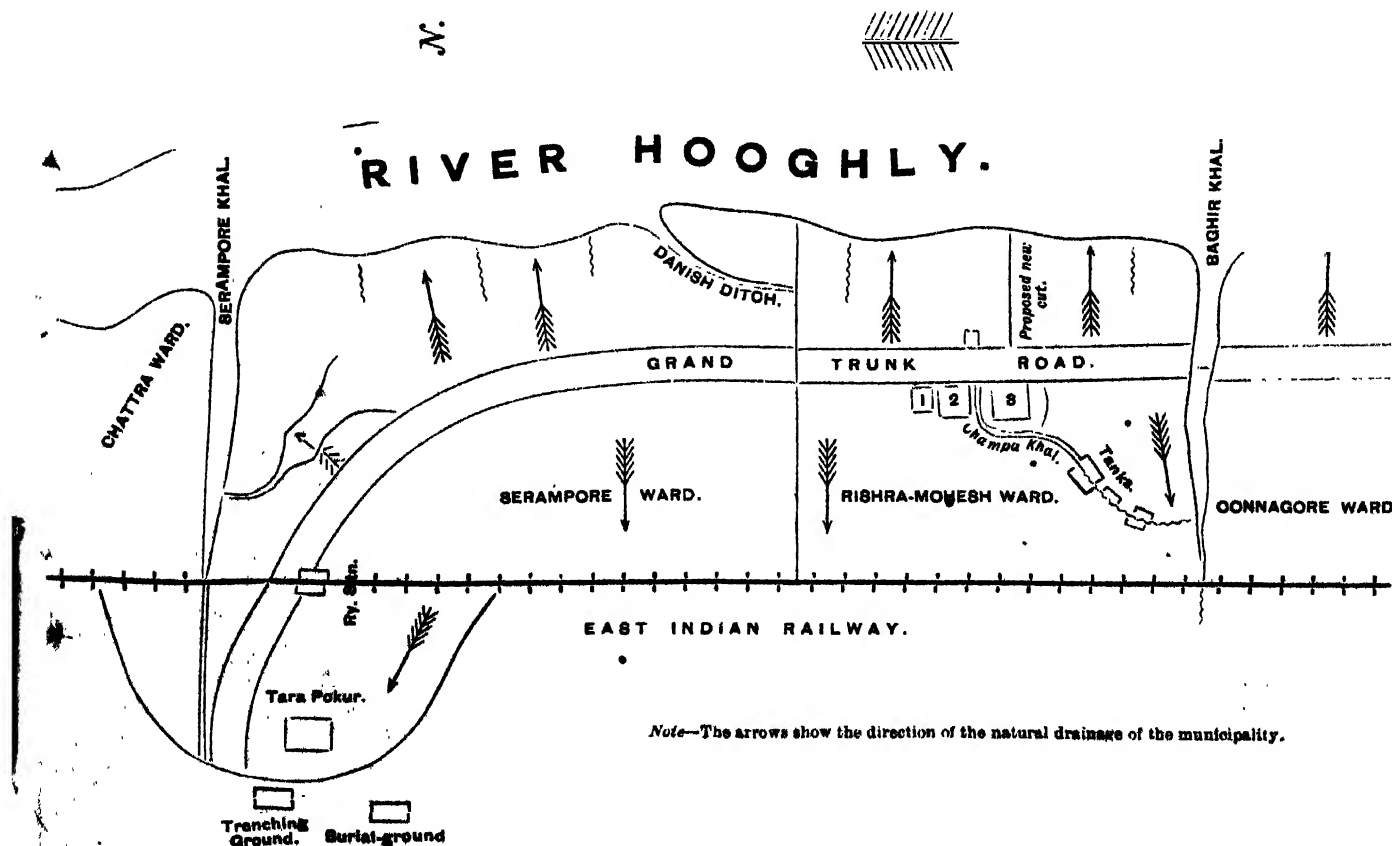
**INSPECTION REPORTS OF THE SANITARY COMMISSIONER
ON THE TOWNS VISITED BY HIM IN 1889.**

SERAMPORE MUNICIPALITY.

I INSPECTED the Serampore Municipality on the 12th, 13th, 14th, and 15th January 1889. On the afternoon of the 12th I was chiefly engaged in interviewing some of the principal residents of the place: a portion of the time was also spent in inspecting some of the drains. On the 13th, as previously arranged, I inspected the municipality all day long in company with the Chairman, Baboo 'Troylokhanath Mitra, D.L., and the Conservancy Inspector, Mr. Alexander, both of whom spared no pains in showing me all over the place. On the morning and forenoon of the 14th, in company with the Civil Surgeon, Dr. Barker, who takes a great deal of interest in sanitary matters, and the Conservancy Inspector, I inspected the Serampore ward and other portions of the municipality: the afternoon was spent in the Municipal Office with the Vice-Chairman, Rai Kader Nath Chatterjee Bahadoor, looking through the records and talking over the affairs of the municipality. I also interviewed a number of gentlemen, both European and native, on the 14th. The 15th was also spent in inspecting the municipality, chiefly the Mahesh and Rishra ward, and in interviewing several persons interested in the sanitary arrangements of the town.

2. Serampore was formerly a Danish settlement, and remained so until 1845, when, by a treaty with the King of Denmark, it was transferred to the East India Company. The town is on the East Indian Railway, 18 miles distant from Calcutta, and is a favourite resort of people whose business lies in the city. It is situated on the west bank of the river Hooghly, opposite Barrackpore, and is bounded on the north by the Bydabati Municipality, on the south by the Kotrung Municipality, on the east by the river Hooghly, and on the west by the East Indian Railway. The municipality was established in the year 1865 under Act III (B.C.) of 1864, and is now governed by Act III (B.C.) of 1884. It is divided into four wards, viz., Chattra, Serampore Proper, Rishra and Mahesh, and Connagore, and is composed of 18 Commissioners (including the Chairman), 6 of whom are appointed by the Government of Bengal, and 12 elected by the rate-payers of Serampore. The area of the municipality is about 5 square miles, being about 5½ miles long and about one mile broad. The population, according to the census of 1881, is 25,559, of whom 13,137 are males and 12,422 females. Classified according to religion, the population is as follows:—295 Christians, 22,800 Hindus, 2,461 Mahomedans, and 3 belonging to other denominations. The income of the municipality for the year 1887-88 amounted to Rs. 46,304, excluding an opening balance of Rs. 17,955. The expenditure during the year was Rs. 45,321. The year thus closed with a balance in hand of Rs. 18,938.

The following is a rough diagrammatic sketch of the municipality:—



3. My first impression of the Serampore Municipality was its great extent compared with its limited resources. I was also struck with the straggling nature of the municipality which seems to be made up by the federation of a considerable number of small villages linked on to the central township of Serampore. It is thus a difficult matter for the municipality to meet all the wants of the place, which are many. The Municipal Commissioners have, however, done something towards improving the sanitary condition of the town, but there are still numerous defects which remain to be remedied, many of which would not cost very much, and might easily be taken in hand at once.

4. The general result of my inspection indicates a tendency to deficiencies in every-day administration more than to shortcomings in major sanitary expenditure. The roads and communications throughout the municipality are numerous, and are kept in good order, and all that they now require are avenues of trees on all the principal thoroughfares (at present only some of the roads have been planted with trees). The general conservancy arrangements of the town are fairly satisfactory, though there is a good deal of room for improvement in this direction without extra cost to the municipality. It is proposed to improve the large municipal market, and I understand that the work will be taken in hand as soon as possible, the necessary funds having been put aside for the purpose. At present the sanitary arrangements in the market are very unsatisfactory, especially the drainage arrangements. There are a number of small drains, but their levels are extremely defective, and I noticed that in several places they were filled with some disgusting filth. The drains should be levelled and connected, if possible, with the nearest main drain. The tank in the centre of the market also requires to be attended to. This will be dealt with in the present report under the head Water-supply. There are nine private markets in the municipality. The stalls are open-sided with grass roofs supported on bamboos. The markets were fairly clean, but it is very desirable that they should be surrounded by shallow drains connected with the main drains.

6. The arrangements with regard to the disposal of night-soil are all that can be desired. The soil is principally trenched in grounds to the west of the Serampore railway station, at a considerable distance from the habitations of the people. Mr. Alexander, the Conservancy Inspector, deserves great credit for the thorough and systematic manner in which, under his supervision, the night-soil is buried, and the evenness with which the ground is afterwards levelled. I should be glad, however, if more attention was paid to the planting over of the ground thus manured. As pointed out in a recent circular I have issued on the subject to all municipalities in Bengal, a field once thoroughly manured with night-soil will produce a succession of crops of different kinds of vegetables, both European and native, and such plants as jute, indigo, sugarcane, mustard; in fact all strong feeders are particularly suited to the richness of lands manured with night-soil.

7. The arrangements with regard to cremation are very satisfactory. There are 13 burning ghâts and 4 ghât mohurirs. I do not, however, think that there is any necessity for so many ghâts: 4 would be quite sufficient. The rest should be closed, if this can be done without any legal difficulty. With regard to Mahomedan burial-grounds, there are no public ones in the municipality, but there is a large one just outside municipal limits on the west side of the Serampore ward. This ground is admirably situated on high land. There are 60 private burial-grounds in the municipality. I visited a number of them, and I agree with the late Sanitary Commissioner in thinking that as many of them as can be closed without legal difficulty should be closed as soon as possible, for there can be no doubt that they are highly injurious to the health of the people living in their vicinity.

8. Vaccination and registration of vital statistics are creditably carried on.

9. With reference to jungle-cutting, this should be done twice a year—before and after the rains. If this rule is strictly observed, there could be no cause for complaint. Of course I am not in a position to say what the town was in this respect a year ago, but during my inspection I did not observe much jungle, except in the vicinity of tanks and khalls, which will be noticed further on.

10. Regarding the filling up of pits (dobas), I must agree with the late Sanitary Commissioner in the opinion that the insanitary condition of Serampore is in a great measure due to the universal existence of these excavations, which are nothing more or less than objectionable cess-pits. The municipality, however, has pointed out the difficulty in filling up these dobas, and it must be admitted that it is not an easy matter. In speaking of dobas, I do not refer to tanks, the filling up of which would be seriously detrimental to the well-being of the people. As long as tanks are kept free from pollution and jungle, they are in no sense objectionable or deleterious, but, on the contrary, a great boon to the people.

11. The greatest and most pressing want of the municipality is proper drainage, and this is a matter that seems to have been very much neglected. Dr Barker, the Civil Surgeon of Serampore, is of opinion that the drainage of the town is now in a worse state than it was 30 years ago when he first knew Serampore. The other matters which should engage the early attention of the Municipal Commissioners are improved arrangements for the supply of drinking-water in the interior of the municipality, better sanitary arrangements in bustees, and the improvements of the public latrines. I will deal with each of the subjects in the order in which I have named them; but before doing so I wish to remark that my suggestions are based, not only on personal inspection and observation, but also on the opinions of a large

number of gentlemen, both official and non-official, European and native, who have lived for some time in Serampore, and are thus in a position to know what its most urgent requirements are.

DRAINAGE.

12. As already stated, the want of proper drainage is what is most severely felt in Serampore, and in my opinion this is the chief cause of the insanitary condition of the town. The natural flow of the drainage east of the Grand Trunk Road, which cuts the municipality in two, is in the direction of the river Hooghly: and the Serampore and Baghir khalls, which respectively divide the Chattra from the Serampore ward, and the Rishra and Mahesh from the Connagore ward. The natural flow of drainage west of the Grand Trunk Road is in the direction of the railway and the open paddy-fields and *jallas* on the other side of the railway, as shewn in the diagrammatic sketch given in paragraph 2. In the municipality, west of the Grand Trunk Road, there are no proper drains, and as there is not sufficient waterway in the East Indian Railway embankment to allow the surface water to flow into the open fields and *jallas* on the other side of the line, it collects and stagnates in the municipality. The belt of country lying between the river Hooghly and the Grand Trunk Road has roadside and other drains, but as these for the most part are defective in level and generally out of repair, they are not of much benefit to the town. Some years ago a complete survey of Serampore was made with the view of undertaking a thorough and systematic drainage scheme. The estimate amounted to about Rs 80,000, of which Government promised to pay one-half, provided the municipality could raise the other half; but they were not able to do so, and the scheme fell through. There can be no doubt that, if the proposed scheme could be carried out, it would be of immense benefit to the municipality, especially in that portion of the town which lies to the west of the Grand Trunk Road. As, however, there seems to be no hope of raising the necessary funds, it is needless to say anything more about it, and the best course for the municipality to adopt under the circumstances is to think of some cheaper method by which the present drainage can be improved, and the land to the west of the Grand Trunk Road relieved of the water which at present collects and stagnates there—care being taken that whatever is done should be done as a part of, and in accordance with, one consistent and coherent plan, so that, if at some future date funds are available, there may be no difficulty in making what has been accomplished fit in with the drainage scheme proposed some years ago.

To start with the portion of the municipality which lies to the west of the Grand Trunk Road. It has been proposed to drain this part by a deep cut along the back of the municipality near the railway, and by a cross cut from that into the Baghir khall. Of course this would be the best means of draining the land, if the necessary funds were available, but they are not. The only alternative that suggests itself to me is to increase the outlet capacity of the culverts under the railway line, which are at present quite insufficient, so as to allow the water to flow freely into the open fields and *jallas* on the other side of the line. This would not cost very much.

The drainage of the Chattra and Connagore wards, which are situated at the north and south of the municipality respectively, are fairly good: the drainage of the former flows directly into the Hooghly or into the Serampore khall, and that of the latter principally into the Baghir khall and the Hooghly. All that is necessary is to repair and improve the existing drains, which are defective in many places, and in the case of the Connagore ward to increase the outlet capacity of the culverts under the East Indian Railway, and to construct a cut in the north-western part of the ward to drain into the Baghir khall.

The Serampore ward also can be easily drained at a very small cost. The natural flow of the drainage in this ward is either into the Serampore khall, the river, or the old Danish ditch, which has recently been considerably improved at a cost of Rs. 3,500. This ditch is pucca at its entrance into the river and for some distance inland, having been made so in the Danish time. The other end of the ditch has lately been made pucca: the middle portion is still kutcha. The ditch is kept constantly flushed by a stream of clean discharge water from the Serampore mill which passes into it. I was thoroughly satisfied with this ditch and its flushing arrangements. All that is necessary in the Serampore ward, east and north of the Grand Trunk Road, is to deepen the existing drains and improve their levels, which are in many cases defective.

The drainage in the Mohesh-Rishra ward, especially in the vicinity of the bustees of those names, shown in the diagrammatic sketch given in paragraph 2, is much impeded, and requires immediate attention. I was informed that this locality is a great nuisance from a sanitary point of view, and that this is because the drainage arrangements are so bad. In the beginning of the century a khall called the Champa khall opened into the river immediately to the north of Warren Hastings' country-house. The mouth of this khall, however, became gradually silted up, and has for many years past been completely obliterated, the site being now occupied by a large house belonging to the Hastings Mill Company. The rest of the khall remains as it was originally, and the old culvert on the Grand Trunk

Road which crosses the khall is still in existence. Following this khall, it will be seen from the diagrammatic sketch that it passes between the bustees numbered 2 and 3 (which are very thickly populated), it then turns in a southerly direction and skirts bustee No. 3, and from the south-west corner of this village passes in a south-westerly direction through four or five tanks into the Baghir khall which separates the Mahesh and Rishra from the Connagore ward. The Champa khall is supposed to drain the villages in its vicinity, but as a matter of fact it does not, and cannot possibly do so properly under existing circumstances. At present the greater part of the surface drainage from these villages which finds its way into the khall stagnates there, because the khall cannot be properly flushed. An excellent kutchra drain from the Hastings Mill brings the discharge water from that mill into the Champa khall, which it joins at the south-west corner of No. 3 bustee. The major portion of this water flows along the khall into the tanks through which the khall passes, but a portion of it also flows in the other direction of the khall which has no outlet. It will thus be seen how seriously the drainage in this locality is impeded. I had a long conversation on the subject with Mr. James Struth, the Manager of the Wellington Mill, who takes a great deal of interest in drainage and other matters relating to sanitation, and who very kindly accompanied me in my inspection of the drainage arrangements of this locality. We came to the conclusion, after a careful and thorough consideration of the subject, that the only way to drain the Mahesh and Rishra bustees satisfactorily is by opening a three-foot drain from the Grand Trunk Road to the river between the Wellington and Hastings Mill. The proposed drain could be connected with the Champa khall by means of a culvert under the road, if the existing culvert will not answer the purpose. It will also be necessary to construct a sluice gate at the south-west corner of No. 3 bustee, where the kutchra drain from the Hastings Mill meets the khall, so that the water may flow round the villages in question into the river through the proposed new cut. The cost of this arrangement would not be much, while the benefit to be derived from the scheme would be very great. The property through which the proposed drain would pass belongs, I understand, to the Bose family. It is at present in the hands of Trustees, and Messrs. Finlay, Muir and Company have a long lease of it. Considering the advantage and public benefit to be derived from the above scheme, I do not think that there will be any difficulty in obtaining the necessary permission to cut the proposed drain through the property in question.

WATER-SUPPLY.

13. The people of Serampore obtain their supply of water from the river Hooghly and from tanks, of which there are a great many in the municipality. Some of them contain good water, but a great many do not, and as none are specially reserved for drinking purposes, there is always the danger of their being polluted in various ways. As a matter of fact this is actually the case in several tanks, as will be noticed further on. The question of introducing a filtered water-supply into the town has often been urged on the municipality, who are fully aware of the importance of such a scheme, but the question is one of ways and means. The municipality has no available funds at present, and there seems to be no chance of raising a loan for the purpose, even if it were desirable to do so. There seems, however, to be no urgent necessity for such a scheme. The river Hooghly is available to a great part of the town for drinking purposes, and in this respect Serampore is much better off than most mufasil towns. At certain seasons of the year it is true the river water is turbid and contains a quantity of silt, but the people have a very cheap and easy process of clearing it. The water is collected in earthen vessels and allowed to stand, a small quantity of alum and a kind of nut called *nirmul* being put into it, in order to purify the water and cause the sediment to settle quickly. So far therefore as the people living in the vicinity of the river are concerned, special arrangements for water-supply are not immediately needed, but for those parts of the town which are not within easy reach of the river, the case is different, and it should be the duty of the municipality to provide them with a supply of good drinking-water. I was informed that the Commissioners are now engaged in reserving tanks for drinking purposes; this matter should be pushed on as soon as possible, so that before the hot weather sets in some tanks at least may be reserved. No greater boon could be given to the poor people, and nothing would be received by them with greater thankfulness than a good supply of drinking-water, especially in the hot and dry months of the year. About the close of the year 1884 there was a severe outbreak of cholera in the Rishra and Mahesh bustee, on the west side of the Grand Trunk Road, almost opposite the Hastings Mill, and had it not been for the efforts of Mr. Finlay, the energetic Manager of the mills, there can be little doubt that the suffering and mortality would have been greater than it was. Mr. Finlay at some expense made arrangements to supply the people with pure water by putting up a hydrant in the Mahesh and Rishra bustee, which he connected by means of underground pipes with a clean and wholesome tank in the mill compound specially reserved for drinking purposes. The water was pumped from the tank into the hydrant through the underground pipes by means of a donkey engine, and as many as chose to avail themselves of the pure and wholesome water thus provided for them, were allowed to do so free of charge. Hundreds

of poor people flocked to the hydrants, and after the epidemic had subsided, the people of Mahesh and Rishra presented Mr. Finlay with the following touching address as a token of their gratitude for his efforts in their behalf:—

To

JOHN FINLAY, Esq.,
Manager, Hastings Mill,
Serampore.

DEAR SIR,

WE, the people of Mahesh and Rishra, beg to tender you our most sincere thanks for the generous assistance rendered by you to the sick and helpless on the occasion of the recent fearful outbreak of cholera in our neighbourhood, when over 200 people were swept away.

Your noble and self-sacrificing efforts to relieve the sufferings of the poor afflicted people are beyond all praise, and have earned our warmest thanks and deepest gratitude.

It is men like you that uphold the high character of the British nation in India, and endear themselves to the people amongst whom they dwell.

We pray God that he may bless you to live long among us, and grant you children and grandchildren, who will boast of their ancestors when we will be all out of sight.

We remain,

DEAR SIR,

Yours most faithfully,

The 11th January 1885.

There is no doubt that the Municipal Commissioners would also earn the gratitude of the people, besides feeling a sense of satisfaction at having done their duty, if they were to reserve as many of the best tanks as possible solely for drinking purposes. This might easily be done by a Committee of Ward Commissioners. At present there are only two municipal tanks in Serampore, neither of which seem to be reserved for drinking; the rest are private property, and many of these are kept in a disgustingly filthy state. The largest and best tank in the municipality is the Tara Pokur, belonging to the well-known Roy family, who freely allow all persons to draw water from it; but even this tank is not reserved for drinking purposes. There is also a large tank at Aonapara, which might with advantage be taken up, or, if funds will not permit of this, it might be leased by the municipality and set apart for drinking purposes. To the west of the railway station there is a large tank belonging to the Railway. It is at present very much neglected. Water-plants and weeds have been allowed to grow in it to such an extent that the water can scarcely be seen. The tank is also polluted in several ways. A drain from the adjoining bustees carries much of the liquid filth of the bustees into the tank, which is thus rendered most unwholesome. This should be stopped at once, and the Railway authorities requested to clean the tank as soon as possible. Another tank which is very much neglected is the tank in the Serampore ward (a very thickly-populated locality), west of Kulbagan Street. This tank, which is probably the worst in the municipality, is about 60 feet long and 50 feet wide, with a depth of water of about 9 feet. Houses, both pukka and kutcha, are built around three sides of it, and a large portion of the drainage from these habitations flows into the tank. But worse than this, there are three latrines in constant use, actually built on the slope of the tank, a few feet from the water's edge. As almost all the liquid and much of the solid excreta from these latrines must find its way into the tank, it can easily be imagined in what state the water must be. As a matter of fact, I noticed several feet of thick semi-fluid filth round the margin of this tank. There is also a considerable amount of jungle on the banks of the tank, which is commonly used as a night-soil ground. I could not have believed it possible that such a tank existed in the municipality. The latrines referred to should be removed at once from the immediate vicinity of the water; the jungle should be kept constantly out, not only in this, but in other tanks and khalls where at present it is allowed to grow, and the banks of the tanks should be raised so as to prevent inward drainage from the surrounding houses. There is a large and deep tank in the centre of the Municipal Market which requires attending to. The water at present is not good, as a good deal of the surface water from the market finds its way into it. The banks of this tank should be raised so as to prevent inward drainage.

BUSTEES.

14. With regard to overcrowding and general sanitation in bustees, my attention was particularly drawn to a compound situated at No. 11, Strand, where a number of lodging-houses for coolies who work in the adjoining mill have lately been erected. The sheds themselves are well built and nicely arranged, but the latrine arrangements in the compound are

very bad. The smell emanating from the place was sickening, and I do not wonder at the people in the neighbourhood complaining as they do. The municipality should insist on proper sanitary arrangements being carried out in this locality. I also noticed that there was a good deal of overcrowding in the bustees connected with the Hastings and Wellington mills, and in those in the northern portion of the Chattra ward. I am perfectly aware that it is exceedingly difficult to interfere with the existing arrangements as far as the huts are concerned, but there is no reason why the drainage of these bustees, which is at present very far from satisfactory, should not be improved. This might easily be done at a comparatively small cost to the municipality.

LATRINES.

15. There are nine public latrines situated in different parts of the municipality. They are constructed of half-burnt brick, and are defective in design, and in other respects objectionable. It is, however, impossible at present for want of funds to replace all of them by new iron latrines, but this should be done as soon as funds allow. In the meanwhile I think it is very desirable that three new iron latrines should be constructed—one near the railway station about 100 yards down the road which runs south along the railway line towards Conna-gore, another in the Chattra Bazar Road in place of the present mat latrine there, which is most objectionable, and one near the Municipal Market. At all these places latrines are urgently needed, as being the only means by which much of the open air defecation which is carried on in those localities can be put a stop to. Iron latrines are preferable to half-burnt brick, or even pucca ones, as they are simple, easy of construction, durable, easily cleaned, and perfectly free from saturation.

16. In conclusion, my acknowledgments are due to Mr. F. W. Duke, the Subdivisional Officer of Serampore, for many valuable hints and suggestions; to Baboo Troylokhanath Mitra, D.L., the Chairman of the Municipality, for the trouble he took in accompanying me over the municipality, and for the assistance he afforded me in the course of my enquiries; to Rai Kedar Nath Chatterjee Bahadoor, the Vice-Chairman of the Municipality, for allowing me access to the records of the Municipal Office, and for explaining and bringing to my notice many matters in connection with the affairs of the municipality which I could not otherwise have known; to Baboo Nundolal Gossain, one of the leading members of the municipality, who afforded me similar assistance to that given by Rai Kedar Nath Chatterjee Bahadoor; and to the other gentlemen mentioned in the body of this report for the assistance alluded to in each case.

W. H. GREGG, M.B.,

The 22nd January 1889.

Offg. Sanitary Commissioner for Bengal.

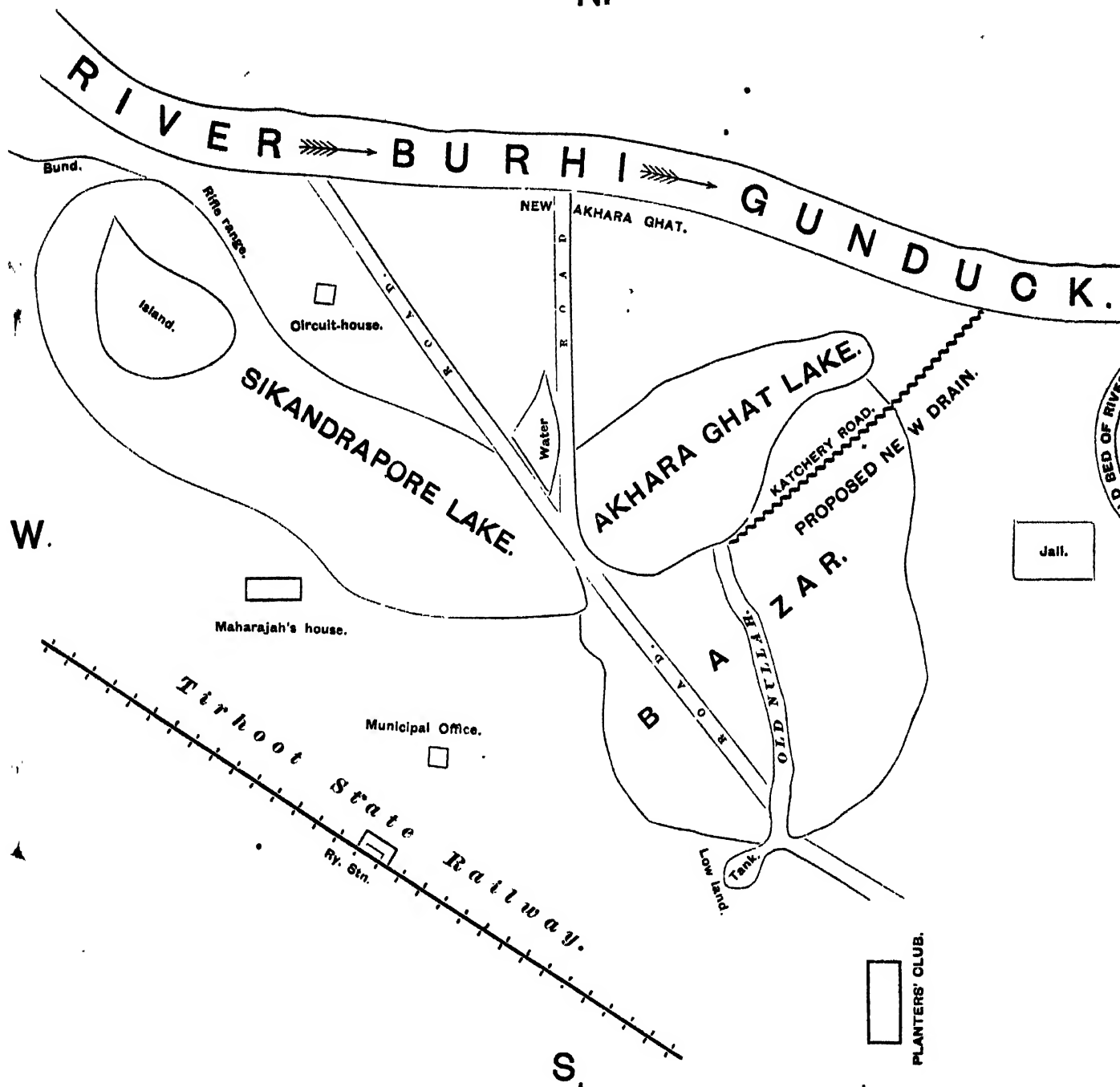
MOZAFFERPORE MUNICIPALITY.

I INSPECTED the Mozafferpore Municipality on the 23rd, 24th, 26th, 27th, and 28th January 1889. The Chairman, the Secretary to the Municipality, and several of the Municipal Commissioners accompanied me at different stages of my inspection. I also interviewed several residents of the place, both official and non-official, interested in the sanitary arrangements of the town.

2. Mozafferpore, so called after its founder Mozaffer Khan, is charmingly situated on comparatively high land on the south bank of two large and beautiful lakes called the Sikandrapore lake and the Akhara Ghât lake. These lakes originally formed the bed of the Burhi Gunduck river, which now flows about half a mile north of the town. The larger of these lakes has been bunded in order to keep in the water, and there are two or three sluice gates in the bunds to let in river water when necessary. The Maharajah's house, the club, and most of the best houses in the station are built on the shores of the Sikandrapore lake, while the bazar, which is large and picturesque, and a few of the finest houses are situated on the south bank of the Akhara Ghât lake. The municipality of Mozafferpore was established in the year 1864 under Act III (B.C.) of 1864, and is now governed by Act III (B.C.) of 1884. It is divided into six wards, and is composed of 18 Commissioners and a Chairman who is appointed by Government. One-third or six of the Commissioners are also appointed by Government, the remaining two-thirds or 12 are elected by the rate-payers. The average length of the town from north-west to south-east is two miles and-a-half, and its breadth is two miles. It has an area of about 5 square miles. The population of the town, according to the census of 1881, is 42,742, of whom 23,084 are males and 19,658 females. Classified according to religion, the population is as follows:—233 Christians, 30,028 Hindus, and 12,481 Mahomedans. The income of the municipality for the year 1887-88 amounted to Rs. 33,368, excluding an opening balance of Rs. 33. The expenditure during the year was Rs. 32,007. The year thus closed with a balance in hand of Rs. 1,394 only.

8. The following is a rough diagrammatic sketch of the most thickly-populated portion of the municipality :—

N.

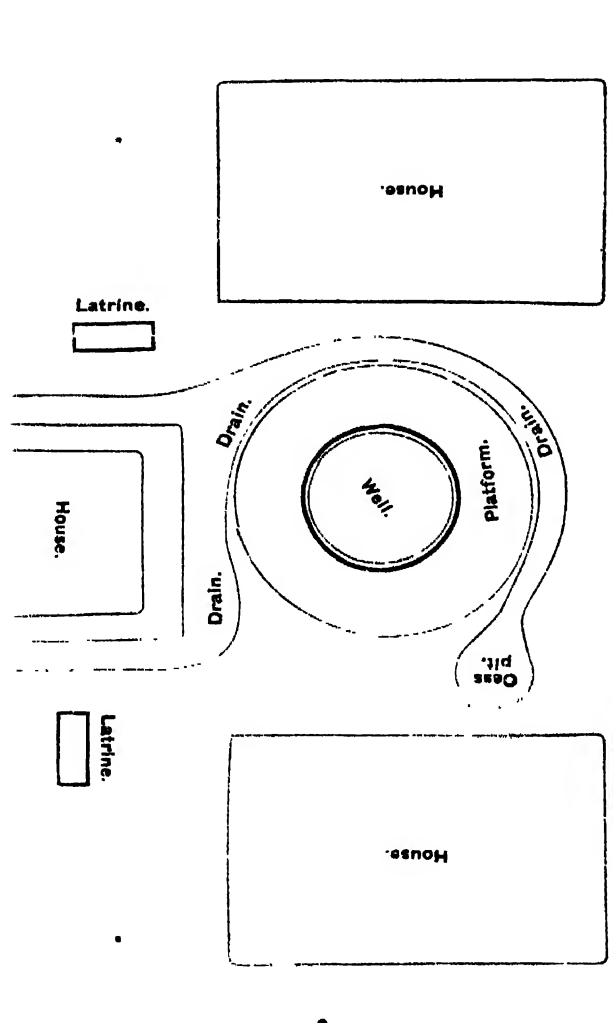


Mozafferpore is a beautiful old town, and from its situation and natural advantages should be one of the most salubrious in Bengal, but this is not the case, and I think the cause is to be found in the manner in which, of late years, the sanitary arrangements of the town have been neglected. What struck me more forcibly than anything else was the wilful pollution of wells and tanks from which the greater part of the population of the town obtain their supply of water for drinking and culinary purposes, and the systematic and permitted pollution of the water of the Akhara Ghât lake. The drainage arrangements of the town are also a source of danger to the inhabitants, inasmuch as they are at present one of the chief sources of the water pollution alluded to above. The arrangements with regard to registration of vital statistics and vaccination are also unsatisfactory. I will deal with each of these subjects in the order in which I have named them, but before doing so I wish to remark that I feel convinced that if the Municipal Commissioners displayed a little more activity and interest in sanitary matters than they appear to have done in recent years, they could, at a comparatively small cost, very soon remedy the existing defects, and make the town one of the most attractive and healthy, as it is already one of the most picturesque in Bengal; and in drawing the attention of the municipality and others concerned or interested in the cause of sanitation to the defects noticed by me in the course of my inspection,

I would earnestly urge them to use their influence, and to devote a portion of their time, their talents and their experience to matters of sanitation and improvement.

WATER-SUPPLY.

4. In most of the districts in Bengal Proper the greatest and most pressing want is good drainage. In Behar the want of good drinking-water is most severely felt. The European residents of Mozafferpore obtain their supply of drinking-water from the river Burhi Gunduck, which flows about half a mile to the north of the town. By means of filtration this water is rendered tolerably pure, and the European population do not seem to suffer in any way from its use. The majority of the natives, however, will not use the river water for drinking purposes, because they believe it causes goitre. It is a fact that the river water, which comes down with large quantities of silt from the Himalayas, is largely impregnated with various salts, and it would seem that goitre is a prevalent disease among the inhabitants of the country watered by the Burhi Gunduck, especially among those living north of the river. The natives of Mozafferpore obtain their supply of drinking-water from wells, of which there are a very large number in the municipality, many of them having been provided for the benefit of the poor by the munificence of the residents of Mozafferpore and its neighbourhood. I am sorry to say that these wells have in recent years been shamefully neglected and allowed to get into a disgustingly filthy condition by those



whose duty it was to keep them clean and free from pollution. In many instances they are surrounded by house drains, a large portion of the contents of which undoubtedly finds its way by percolation, and in some instances trickles directly into the wells, carrying with it the germs of cholera, which dreadful disease manifests itself year after year with such fearful severity in Behar, particularly in the months of June and July. A typical example of the permitted pollution in this way of well water in Mozafferpore is seen in the case of the well situated at a place called Seraigunge, one of the most thickly populated localities in the municipality, which I visited in company with the Secretary to the Municipality. The diagram given in the margin shows the position of the well and its surroundings. The drain encircling it carries all the cookroom washings and other liquid refuse from the houses near by, together with a large portion of the urine, &c., from the latrines, which it will be observed are situated on the sides of the drain, into the cesspit. From the drain, but more particularly from the cesspit, which was a heaving mass of crawling maggots when I saw it, emanated the most disgusting and overpowering stench that it is possible

to conceive. This is a true illustration of the position and surroundings of most of the wells situated in the thickly populated portions of Mozafferpore, and the manner in which they are rendered liable to pollution. In these circumstances can it be wondered at that cholera is present in the town nearly all the year round? Water contaminated as the water of these wells are must undoubtedly be a prolific source of cholera and other diseases. The immediate attention of the Municipal Commissioners is invited to the surroundings of the wells in the municipality. All cesspits should be removed from the vicinity of wells, the margins of which should be kept as clean and the water as free from pollution as possible. House drains should be diverted in some other direction, and on no account allowed to be constructed around or near the wells. With regard to the water of the lakes, the Sikandarpore lake, except its eastern portion near the bazar, is kept fairly clean, but the Akhara Ghat lake is at present contaminated by the discharge into it of the contents of the main drain of the bazar, by the promiscuous use of its banks as a night-soil ground, and by the washing of clothes, &c., in the water. All these objectionable practices should be stopped, and the

bazar main drain diverted as recommended in the portion of this report relating to drainage. The jungle which at present abounds on the shores of this lake and in the eastern portion of the Sikandrapore lake should also be removed. It would also be of great advantage if a bund with a sluice gate were constructed along the eastern portion of the Akhara Ghât lake, similar to that constructed at the northern portion of the Sikandrapore lake, so as to let in fresh water from the river when necessary, and keep the lake water as pure as possible. These two beautiful sheets of water are well worth the small expense of keeping them pure and good, and if this were done, it would be a great boon to the poor people during the hot and dry season of the year when many of the wells dry up and good drinking-water is scarce.

DRAINAGE.

5. The natural flow of the drainage of Mozafferpore is in an easterly direction, but nearly the whole of the drainage of the bazar, which is the most thickly populated portion of the municipality, at present flows into an old nullah which runs through the bazar, and is connected at one end with the Akhara Ghât lake and at the other with a tank situated in low lying land. The depth of the nullah varies from less than three feet in some places to more than six feet in others. Its width also varies from about four to seven feet. It is objectionable and quite unnecessary that the bed and width of this nullah should be so uneven, and I would strongly recommend that the deeper portions be filled up and a uniform depth of about three feet secured. I am aware that during the rains many tanks are filled by means of this nullah, but the proposed alteration will in no way affect this arrangement. It has already been remarked in the preceding paragraph relating to water-supply, that the water in the Akhara Ghât lake is at present polluted by the discharge into it of the bazar drainage through the nullah referred to above, and that this objectionable practice should be stopped. I would propose that the nullah be connected with the river below the town by means of a cut about three feet deep and three feet wide along the katchery road as shown in the diagrammatic sketch given in paragraph 3. The cost would not be much, while the advantages to be derived from it would be very great. Not only would it improve the sanitary condition of the bazar (the smaller drains in which could easily be connected with the proposed new drain), but it would also improve the condition of the Akhara Ghât lake, and raise the value of the surrounding property. A very good pucca drain, 500 feet long, has recently been constructed in the eastern portion of the bazar, and connected with the nullah at its northern end.

REGISTRATION.

6. The registration of vital statistics has been very much neglected in this municipality. There has certainly been an improvement in registration during the year 1888 as compared with the previous year, but there is still a palpable deficiency in the accuracy of the statistics supplied, the effect of which is to completely vitiate any conclusion which may be drawn from them as to the general health of the town. It should be remembered that accurate registration of births and deaths fulfils many useful purposes, not the least among which is that it furnishes to medical and sanitary science information of the highest value concerning the state of the public health. By means of registration efficiently conducted, the sanitary authorities of any locality are promptly informed of the prevalence of preventable disease, and are thus enabled to take the necessary measures for the protection of the public health with the least possible delay. Moreover, registration reports, taken in connection with the census, yield statistical results, which throw light upon the casual conditions under which prevailing diseases occur, and thereby prove an invaluable contribution to the science of preventive medicine. I would invite the special attention of the Municipal Commissioners to the necessity of more carefully discharging this important part of their duties. The present system should be enquired into, reorganized and placed on a sounder basis.

VACCINATION.

7. This is a matter which also requires more attention than the Municipal Commissioners have latterly given to it. Last year my predecessor remarked in his inspection report of Mozafferpore that vaccine operations were making fair progress, and he expressed the hope that they would be carried out with like or even greater activity year by year. It appears, however, from the returns which have been received in this office that only 1,608 operations were performed during the year 1888 against 1,820 in the previous year. The decrease in 1888 is not creditable to those responsible for the progress of vaccination. The Compulsory Vaccination Act is in force in Mozafferpore, and inoculation is prohibited by law. There should therefore be no difficulty in encouraging and, if necessary, enforcing vaccination. This is especially necessary, as inoculation has not yet been prohibited, and is largely practised in the surrounding districts of Sarun, Chumparun, and Durbhangah. I believe it is also still looked upon with more favour than vaccination in many parts of Mozafferpore. Before, however, any advance can be made in vaccination, its advantages over inoculation should be clearly explained to the people by those entrusted with the duty of carrying on vaccination. The great merit of small-pox inoculation is that it communicates the disease as a rule in a mild form, and affords protection to the individual from a subsequent attack of the disease just to the same extent as one attack of small-pox naturally contracted exempts the individual from another. On the other hand, the great defect of small-pox inoculation is that it produces small-pox, and thus disseminates that disease from so many distinct centres of infection according to the extent and frequency of the practice. For, whilst it undoubtedly affords

protection to the individual operated upon, it equally exposes all those who are not similarly treated at the same time, or who are not protected by a previous attack of small-pox, to the imminent risk of contracting the disease by infection, with all the dangers and deformities attendant thereon. In short, small-pox inoculation affords safety and protection only to the inoculated, but is a grave danger to the rest of the population not already protected by a previous attack of small-pox. It is this fact which nullifies the practical utility of small-pox inoculation as a prophylactic agent of general applicability, and which prohibits its use altogether in the presence of vaccination. Because the one produces a highly infectious disease which, thus contracted, runs a more or less dangerous, destructive, or fatal course; whilst the other produces a very mild ailment which is not infectious, and is communicable only by inoculation. These great advantages of vaccination soon gave it the mastery over small-pox inoculation, and it is now acknowledged throughout the civilized world as the only true prophylactic against small-pox: simply because, whilst it secures protection from small-pox only to the individual subjected to its inoculation, it does no injury to his neighbour by exposing him to the infection of small-pox.

MISCELLANEOUS.

8. The roads and communications throughout the Mozafferpore Municipality are numerous and are kept in good order; all that they now require are avenues of trees on all the principal thoroughfares, and if the bunds were also planted with trees, it would greatly improve the appearance of the town. The markets are kept fairly clean, and require no special mention at present. The public latrines are constructed of half-burnt bricks, and are defective in design and in other respects objectionable. It is, however, impossible at present for want of funds to replace them by new iron latrines, but this should be done as soon as funds permit. Iron latrines are preferable to half-burnt bricks or even pucca ones, as they are simple, easy of construction, durable, easily cleaned, and perfectly free from saturation. The night-soil is at present buried at a very great distance from the bazar, and I have reason to believe that it is not always carried to the trenching ground, but is thrown by the mehters into ditches and excavations on the way. If possible, a site nearer the bazar should be selected.

W. H. GREGG, M.B.,

*The 15th February 1889.**Offg. Sanitary Commissioner for Bengal.*

SOUTH DUM-DUM MUNICIPALITY.

No. 1400, dated Calcutta, the 23rd February 1889.

From—W. H. GREGG, Esq., Sanitary Commissioner for Bengal,

To—The Secretary to the Government of Bengal, Municipal Department.

IN compliance with the orders of Government, No. M²8, dated the 8th instant, I have the honour to submit the following report regarding the insanitary condition of portions of the South Dum-Dum Municipality, surrounding the Dum-Dum Cantonment, which has recently formed the subject of correspondence between Government, the Military authorities, and the South Dum-Dum Municipality through the Commissioner of the Presidency Division.

2. The Military authorities, in the letter from the Cantonment Magistrate, to the

Padrihatta Village, and parts of
villages Satgachee, Nager Bazar, Digla,
and Digla Nyabusti.

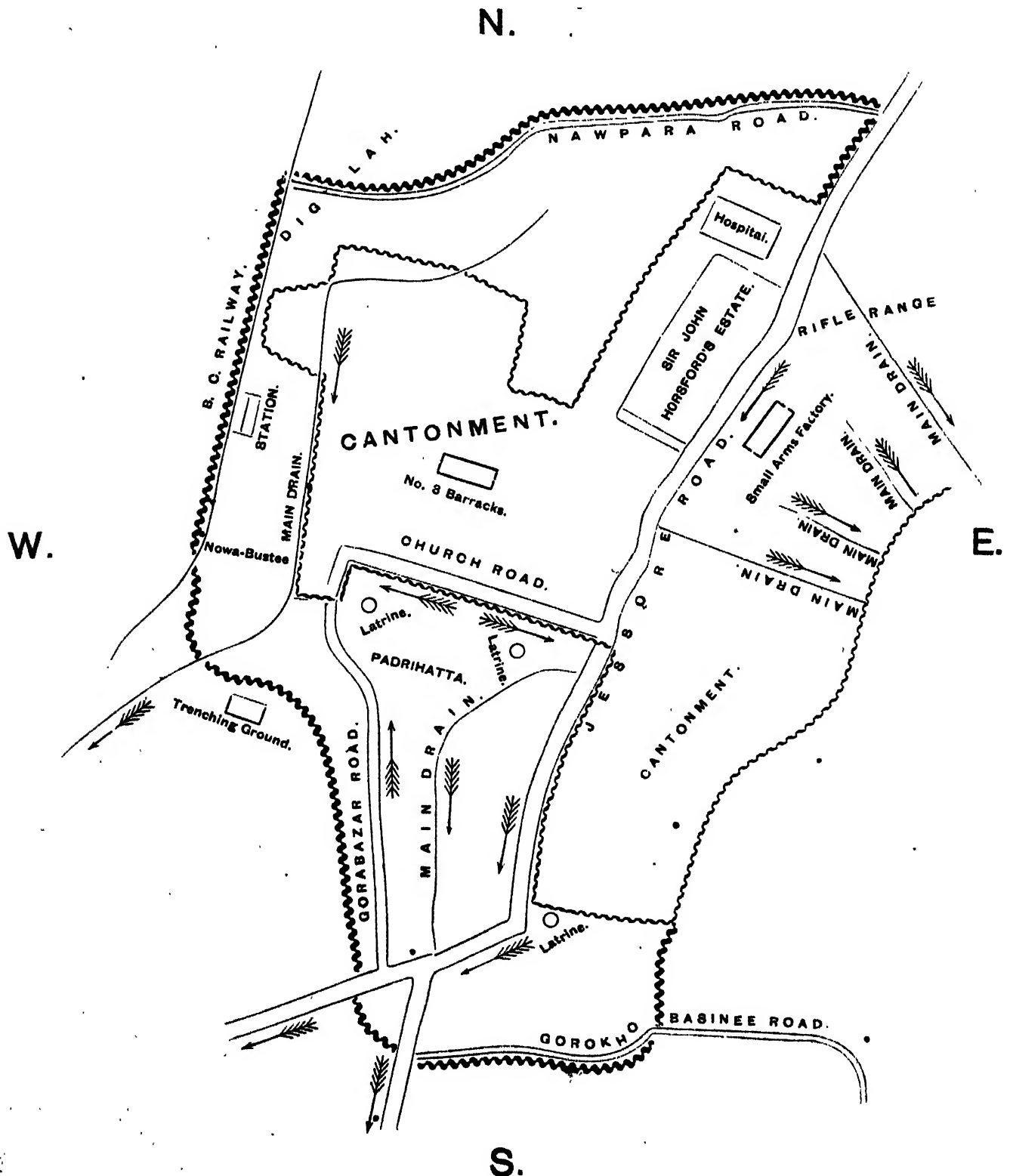
Magistrate of the 24-Pergunnahs, No. 98CJ, dated the 18th
May 1888, complain that the area in question, which com-
prises the villages named in the margin, abounds in filthy
tanks, pits and water-holes, which are never cleaned, and

are used among other purposes, for the deposit of filth and refuse. It is also stated that there are no public latrines, no establishment for the cleansing of privies and the removal of excreta, and that as the people mostly resort to fields, patches of jungle, covered waste lands, ditches and pondsides for purposes of nature, the air is heavily laden with fœcal odour, and the stench at times is almost unbearable. It is also stated that well-privies exist in the municipality, and that these are never cleaned; that the arrangements with regard to the slaughter-house are most objectionable; that the number of pigs kept in bustees are a source of considerable nuisance; that the cow-houses and sheds are in a very insanitary condition and that no provision has been made for a public burial-ground. On the whole, the military authorities are of opinion that the portion of the South Dum-Dum municipality surrounding the cantonment is dangerous to the health of the troops in garrison at Dum-Dum, and that it is desirable, for the safety of the troops, that the area in question should be withdrawn from the municipality included within cantonment limits. The Padrihatta village, which lies immediately south of the cantonment within a couple of hundred yards from the European barracks, is said to be in the worst condition. It is stated that from the manner in which the huts are crowded together there is no means of draining the place, or keeping it clean, even if the municipality possessed any establishment for the purpose, and that the spaces behind and between the huts are being filled up with filth and refuse.

3. I inspected the municipality on the 17th, 18th, and 20th instant, and in the afternoon of the 19th idem I discussed the affairs of the municipality with the Chairman, Mr. A. M. Bose, who spared no pains in bringing to my notice even little matters of detail. Mr. Bose accompanied me in my inspection on the 17th. On the 18th I again went over the

localities in question. At one stage of my inspection I was accompanied by Lieutenant-Colonel Sterndale, the Cantonment Magistrate, who was kind enough to grant me a long interview, at which we discussed the condition of the cantonment and the adjoining portions of the South Dum-Dum Municipality. I also had the advantage on the same date of an interview with Colonel Harrison, the Commanding Officer at Dum-Dum, who takes a great interest in sanitation, and is most anxious to do all he can for the benefit of the health of the troops committed to his charge. On the 20th I visited Dum-Dum for the third time, chiefly with the object of ascertaining to what cause the present outbreak of typhoid fever among the troops is due. I visited the hospital in company with Dr. T. J. P. Holmes, the Medical Officer in charge of the cantonment, and thoroughly inspected with him the drainage arrangements both in the cantonment and in the municipality.

4. The following is a sketch of the cantonment and of that portion of the South Dum-Dum Municipality which is the subject of the present correspondence. The present boundary of the cantonment is marked by a thin wavy line, and the portion of the South Dum-Dum Municipality, which it is proposed to include in cantonment limits, is shown by a thicker wavy line. The main drains are also marked, and the arrows show the direction of the flow of the drainage:—



5. Before describing the condition of the cantonment and the municipality as I found them, I beg to be allowed to remark, with reference to the proposal to include the area complained of within the cantonment limits, that even if this could be done without the consent of the Municipal Commissioners, which they have refused to give, it would not in my opinion be of much advantage to the cantonment. The fringe of villages or bustees, the condition of which is now regarded as a source of danger to the health of the troops, would, in a very short time, be formed on the borders of the extended area of the cantonment, and the nuisances, instead of being done away with altogether, would only be removed a little further off to a distance which would probably make no appreciable difference. Improved sanitation is what is required in the area in question, and this could, in my opinion, be secured as well under municipal as under military control. The Commissioners of the South Dum-Dum Municipality are, I understand, both willing and anxious to do all that lies in their power and within their limited resources to meet the wishes of the Military authorities. The Dum-Dum Cantonment is at present occupied by the Buffs, one of the most distinguished of the British regiments; and, as I pointed out to the Chairman of the Municipality, the health of the troops must be the first consideration, and that Government would not permit it to be endangered by insanitary conditions outside cantonment limits.

6. The complaints made by the Military authorities originated in the annual report for 1887 of the medical officer in charge of the cantonment, and the report of the Cantonment Magistrate on the subject was written on the 18th May 1888. Since then the municipality has done something, though perhaps not as much as they might have done, towards improving the sanitary condition of the area in question. On the whole, however, I think the cantonment authorities had, and still have, reasonable grounds for complaint, although, as I shall show further on, the municipality can plead extenuating circumstances. I shall now proceed to describe the conditions of the municipality as I found it in February 1889. The roads and lanes are fairly good, and it is satisfactory to observe that a good many of the pits and water-holes complained of by the Cantonment Magistrate have recently been filled up, but the surrounding condition of the bustees is still unsatisfactory, and should be attended to at once. There are still a large number of dirty tanks, the banks of which in many cases are broken, so that the drainage from the adjoining houses easily finds its way into them. There is also a good deal of jungle not only on the sides of the tanks, but also around latrines and bustees, which in some places is used as a night-soil ground. This is a very objectionable practice, and should be put a stop to at once and the jungle cut. There are also a few objectionable well-privies in Digla, which should be removed immediately. Such a thing as a well-privy should not be allowed to exist in a municipality. Hitherto the want of public latrines may have been an excuse for the defilement of the ground and the air by promiscuous defecation, but three good public latrines are now being provided in the most thickly populated portion of the municipality adjoining the cantonment—two in Padrihatta and one in Kajipara. These should be brought into use as soon as possible. More latrines are wanted in other portions of the municipality, and these should be provided as soon as funds permit. The municipality has been charged with great dilatoriness in providing the public latrines referred to above; but if what I have been told is correct, I do not think they can be blamed for the delay. The Chairman informed me that so long ago as April 1887, he made the necessary application for the acquisition of the land required, but it was not till October 1888 that the municipality got possession of it. Many of the private privies in the municipality are most objectionable, and the night-soil from them does not appear to be removed regularly. The municipality have a conservancy establishment consisting of two mehters and a cart; but as there is no special officer to supervise the work, it is not satisfactorily done. The appointment of a Conservancy Inspector is absolutely necessary, and I am surprised that there is not such an officer in the municipality. It appears that in their budget estimates for the current year the municipality proposed the appointment of a Conservancy Inspector, and provided the necessary funds, but the proposal was negatived by the Commissioner of the Presidency Division, and the expenditure disallowed on the ground that a whole-time officer was not necessary, and that the tax-darogah should do the work in addition to his own duties. It is impossible for the tax-darogah to do the work of a Conservancy Inspector in addition to his own duties, and I am decidedly of opinion that a whole-time Conservancy Inspector should be appointed without delay. Until such an officer is appointed, and Part IX of the Municipal Act, relating to the cleansing of latrines, is introduced into those portions of the municipality surrounding the cantonment, it is almost hopeless to expect an improvement in the sanitary condition of the place. The only portion of the area in question where it is doubtful whether Part IX of Act III of 1884 should be introduced is the tract of country lying to the north of the cantonment. The population there is sparse, and the people so very poor that a latrine-rate would probably press very heavily on them. There is besides no urgent necessity to introduce the Latrine Act into this part of the municipality, as there is an open space between the bustees and the cantonment boundary which is not occupied. As regards the cowsheds and slaughter-house in the municipal area, which is the subject of this correspondence, I am of course not in a position to know what their condition was last year, but they certainly are not now in an unsatisfactory state. On the contrary, I was pleased with the existing arrangements, and think the municipality deserve credit for the manner in which the cowsheds are kept.

As regards burial-grounds, the Cantonment Magistrate stated in his letter of the 18th May 1888 that in Digla the practice of burying the dead in close proximity to the houses of the living prevails, and that there are no public burial-grounds. As a matter of fact, there

are six registered burial-grounds within the municipality, two of them being in Digla, and the Chairman informs me that private burials have been prohibited, not only in Digla, but throughout the municipality.

The pig nuisance complained of is, I fear, somewhat exaggerated. On enquiry into the matter, I found that pigs are kept only in the portion of the municipality to the north of the cantonment. So long as the pig styes are kept clean, I do not see that they are much of a nuisance.

As regards drainage, the main drains in the municipality are well situated, and only require to have their levels, which are defective in many places, improved. The bustee drains are the most objectionable at present, and require early attention. These should be properly levelled and connected as far as possible with the main drains. The work could be done at a comparatively small cost with the aid of Baboo Nilmany Mitter, an Engineer, who is also a Municipal Commissioner. This gentleman, I believe, has already suggested certain improvements in regard to bustee drainage, which are now being carried out under his supervision.

7. The only other matter remaining for me to report upon is the very serious and alarming outbreak of typhoid fever, which is at present raging in the Dum-Dum Cantonment. Up to date (20th February) there have been 17 cases (one an officer), of which two have already proved fatal. There are also nine men in hospital, who, it is feared, are sickening for typhoid. This unfortunate outbreak, coming as it does just at the time when there is a controversy between the Military authorities and the Municipality about the condition of the area surrounding the cantonment, might be attributed by the former to the insanitary condition of this area; but there is ample evidence to show that typhoid fever had broken out in the regiment before it came to Dum-Dum, and this is admitted by Dr. Holmes, the Medical Officer in charge. The regiment came to Dum-Dum from Lucknow in three drafts. The first draft arrived on the 15th January, the second on the 23rd January, and the third, which was the largest draft, on the 4th February. Immediately on arrival, some of the men who are at present suffering from typhoid fever, and the two cases which have proved fatal, were admitted into hospital. It also appears from the hospital case-book, which I inspected, that one of the deceased was unwell before he left Lucknow. It will thus be seen that the outbreak did not originate in Dum-Dum. I considered it desirable, however, to inspect the drainage and other arrangements in the cantonment, and Dr. Holmes very kindly accompanied me in my inspection. Nothing could be more satisfactory than the conservancy arrangements of the cantonment, which is kept as clean as a cantonment should be kept, but the levels of the drains require attention. The drainage system was evidently prepared with great care and judgment, and it is a pity that some of the drains have in recent years been allowed to sink in places and get out of level in others. This was rendered apparent by an opportune rainfall of 1.33 inches in the 24 hours preceding my inspection. Dr. Holmes and I observed water-logging in many of the drains. I am aware that the cantonment lies very low, and that the question of an outfall is a difficult one; but there is on that account all the more reason why the existing drains should be seen to constantly, especially as there is such a close affinity between bad or impeded drainage and fever, as explained in the circular I have recently issued to all municipalities on the subject, for easy reference. The drainage along the Jessore road, the southern portion of the rifle range, in the vicinity of the Small Arms Factory, south of Church road, and in the neighbourhood of No. 3 barracks, from which, I am informed, the largest number of admissions into hospital take place, are at present most impeded, and require early attention. There is one more point in connection with the cantonment to which I think the early attention of the Military authorities should be drawn, and that is, the trenching ground, which is situated to the south-west of the cantonment. The present condition of this ground is most unsatisfactory, and cannot but be regarded as injurious to health. The night-soil from the cantonment is deposited in trenches, which are of the proper dimensions, but it is not always covered over with earth! This practice cannot be too strongly condemned. The safest and most profitable way of disposing of night-soil is by burying it in trenches in the manner described in the circular I recently issued to all municipalities on the subject. I would suggest that the Military authorities be furnished with a copy of the circular.

REPORT ON THE OUTBREAK OF CHOLERA IN THE DARJEELING HILLS.

No. 4398, dated Calcutta, the 13th July 1889.

From—SURGEON-MAJOR W. H. GREGG, Sanitary Commissioner for Bengal,
To—The Secretary to the Government of Bengal, Municipal Department.

WITH reference to your demi-official of the 23rd May, I have the honour to submit the following report regarding the outbreak of cholera in the Darjeeling Hills:—

There were three distinct outbreaks into which I enquired, viz.,—

- (1) The outbreak in the late Dr. Smith's family at Kurseong, which caused four deaths, including Dr. Smith;
- (2) The outbreak on the Darjeeling-Himalayan Railway at Tindaria, which caused the death of one European engine-driver; and
- (3) The outbreak in the Mahanuddy valley, which was the severest of the three outbreaks. All the victims in this outbreak were natives.

CHOLERA AT KURSEONG.

2. * * * * * Regarding the outbreak in Dr. Smith's family which has been ascribed to the eating of an overripe *papaya* I think it will be best to give Mrs. Smith's story in her own words, which were as follows:—

"With regard to the *papaya* to which I hear the cholera has been attributed, two were sent to us from Mr. H.—'s garden on the 10th or 11th May. I think it was on the 11th. They were not unripe as reported, but perfectly sound. I examined them myself and found no unsound spots on them. One was eaten at breakfast on the morning of the 11th, and the other at dinner on Sunday night the 12th. I ate most of the fruit; the *dhai** had none of it, and my little boy (18 months old) had none. Both the *dhai* and my boy were taken ill about the same time on Tuesday morning, the 14th May: they were the first in the house taken ill; my brother was also taken ill on Tuesday: he was away from home at the time at the Selim Tea Estates. The *dhai* came to me between 8 and 9 a.m. on Tuesday, and said she had diarrhoea, but that she had not been sick. I gave her some medicine, and immediately after went out for a ride with my husband. We were both feeling perfectly well. During the ride my husband left me, and I returned home alone about 11 a.m. On the way I met the *dhai* going to her house, and she told me that since I went out both she and my boy had been sick, both about the same time. I gave her permission to stay away for the day. When I got home I found my boy looking very bad. My husband returned home shortly after noon. At 1 p.m. we received a letter from my brother from Selim, saying that he was not well. I suggested to my husband that we had better have him brought up the hill, and we accordingly sent for him. At 3 p.m. my husband was taken ill with diarrhoea, but he got better, and shortly after 4 o'clock we went out till dinner time, i.e., about 7 p.m. My husband went to bed before dinner. He had some soup and chicken in bed. I did not retire after dinner, but kept up for my brother whom I was expecting from Selim. While I was keeping up, a native boy from the bazar came and told me that the *dhai* was dying; my husband suggested that I should go and see her. I went and took the Doctor Babu with me. On the way I intercepted a letter directed to my husband from Mr. D.— from Selim, informing him that my brother had cholera. I hurried off to the bazar to get some brandy to send my brother, and then went on to Maxwell's, the chemists. The Doctor Babu went to see the *dhai*, treated her, and then came on to Maxwell's and informed me that she was suffering from severe diarrhoea, but shortly after the native boy came and said that the *dhai* was not suffering from diarrhoea, but from cholera. I did not see the *dhai*. While I was at Maxwell's waiting for further news from Selim, I asked the Doctor Babu to prescribe for my husband, which he did, and I also wrote to the Rev. Mr. W—, an intimate friend of ours, to go and see my husband. Instead of going to my husband, Mr. W— came to Maxwell's and advised me to return home at once, which I did. When I got home I asked my husband if he had been sick, and he said he had not; about five minutes later he was violently sick. I knew then that it was a case of cholera, and some time later my husband said to Mr. W.— "It's all up with me old chap; this is cholera." My husband prescribed for himself. About half an hour after my husband was sick I was attacked with choleraic symptoms, and my husband made me lie down in the dining room. After that I did not move. I was carried to another room. The only fresh case was the European nurse, who was taken ill on Thursday. The *dhai* died on the 15th, and my husband on the 20th. Baby was fed on milk which was good. The water we drank was municipal hydrant water. Some of the suspected jhora water might have got mixed with the hydrant water. A new waterman came on the 1st May. I suspect him of bringing jhora water. I do not believe he did this from any bad motive, but simply to save himself the trouble of going to the hydrant when the jhora was nearer. The *dhai* had not food in my house. She had her meals at her own house in the bazar. She did not eat the suspected *papaya*, neither did my little boy. We ate *papayas* frequently during April and May without any bad effects, and the fruit on several occasions came from Mr. H.—'s garden from which the suspected *papayas* came."

3. It will be observed that Mrs. Smith's story points to some other medium than the *papaya* through which the poison of cholera was conveyed. In these circumstances I deemed it expedient to make a full investigation into the matter. Accordingly in company with Dr. W. of Kurseong and the Rev. Mr. W—. I carefully inspected the house in which the late Dr. Smith lived, the adjoining village, and the suspected jhora between the village and Dr. Smith's house. The house itself and the premises appeared to us to be in a satisfactory condition from a sanitary point of view, and I would not for a moment hesitate to live in it myself. It is also clear that the late Dr. Smith, a man of enviable medical reputation and knowledge, did not consider the house unhealthy from his desire to renew his lease of it for five years. He objected, however, very strongly to the cooly lines some little distance from his house situated in the Singell Tea Estate, and I find that on the 5th November 1888, he wrote as follows to the Manager of that tea estate, who was also his landlord:—"I am willing to take the bungalow on a lease of five years as I have made some improvements in it, and on the condition that first the coolies be removed from this—I mean those (illegible) between the bungalow and the cart road, as during the dry months the house is almost uninhabitable from the stench, as the adjacent jhora is nothing but a filthy cesspool; even among the tea on the side of the road it is very filthy. * * * * * Before closing I must again point out the importance of having the cooly lines removed, for I should not be surprised if a serious epidemic broke out from the insanitary condition of the place. My dear W—, I am sure you will agree with me in this, and urge the necessary alterations." To this letter the Manager of the Singell Tea Company replied on behalf of the Company on the 6th November 1888 as follows:—"It is impossible this cold weather to make any alteration in the situation of the cooly lines you refer to, but next cold weather I shall remove as many as possible away. The jhora, I may mention, should be kept clean by the municipal sweepers. * * * * * With reference to the 'insanitary condition' of the place, I consider that the municipality are to blame for this, as the Company pays them yearly a sufficient sum of money to enable the municipality to allow the sweepers to keep the place clean as well as the Kurseong bazar."

4. After examining the house and premises, Mr. W—and I proceeded to the suspected jhora, which we examined and found in a filthy condition. We next inspected the village on the other side of the jhora and discovered after some difficulty, owing to the reticence of hill men to give information on such subjects, that there have been three cases of severe diarrhoea

* This woman although called *dhai* was really only an ayah.

(which were possibly choleraic) in the village shortly before Dr. Smith's death. I saw two of the persons who had suffered. They said they had severe abdominal pains accompanied with severe diarrhoea, but no vomiting, and the mother of one of them confessed that she had washed her daughter's soiled clothes in the jhora. It is true the jhora is a running stream, but I am informed that in May the water in it was scanty and flowed slowly, only four slight showers of rain having fallen from the 1st to the 14th May, on which date the cholera broke out in Dr. Smith's family. It is thus possible if the three persons in question actually suffered from cholera, as seems probable, that some of their cholera germs were retained in the close vegetation on the banks of the jhora, and when it is remembered that the drainage from a large portion of the Kurseong bazar flows into this jhora; that the cholera hospital is situated in the midst of a thick jungle near the banks; of the jhora; and that this jungle, together with the banks of the jhora, is commonly used as a night-soil ground by the coolies of the Singell Tea Estate and also by persons passing to and from the *hats* held in the bazar, it will be readily understood how easily liable the jhora water is to be polluted. For these reasons it is much to be feared that the water from this highly contaminated jhora, which it is admitted was conveyed to the house and probably mixed with the hydrant water kept for drinking purposes, was one of the chief causes of the cholera in Dr. Smith's family. It is true that the sample of water drawn from the jhora and forwarded to the Chemical Examiner to Government for analysis has been pronounced by that officer to be of good quality, but it must be remembered that the sample of water was drawn several days after the outbreak of cholera in Dr. Smith's family, and after several heavy showers of rain had scoured out the filthy jhora, so that the result of the analysis does not prove that the water was pure at the time of the outbreak. It is said that Dr. Smith did not visit any cholera cases, nor was he in any locality in which cholera was present shortly before his death, but I understand that for some days previous he had been travelling about a good deal, and complained of exhaustion after each day's work, so that his constitution must have been debilitated at the time he was attacked, and it is therefore not surprising that he succumbed to the effects of cholera and the pneumonia with which he was afterwards attacked.

5. In the course of my enquiry into Dr. Smith's case, my attention was drawn to the fact that the Kurseong Municipality do not allow house connections with the main water-pipes. I cannot understand why they should object to this obviously sanitary precaution, unless it be on the grounds of insufficiency of water. But if this is so, steps should be taken without delay to increase the water-supply. If house connections were allowed, as they undoubtedly should be, the risk of drinking contaminated water would be reduced to a minimum. At present that risk is considerable. Native water-carriers do not sufficiently appreciate the benefit of pure water, and to save themselves what they consider unnecessary trouble, they in the majority of cases draw water for the use of their employers from the nearest source, whichever that may be—hydrant or jhora, regardless of the purity of the water in the one case, and the probable impurity of it in the other.

CHOLERA ON THE DARJEELING-HIMALAYAN RAILWAY.

6. The second outbreak of cholera in the Darjeeling Hills, referred to in the opening paragraph of this report, occurred on the Darjeeling-Himalayan Railway at Tindaria, the Engineering and Traffic head-quarters of that Railway, and at the "12th mile," some distance below Tindaria, near the foot of the hills. Unfortunately the origin of the cases which occurred at the 12th mile is involved in such hopeless obscurity that, notwithstanding the valuable assistance I received from Mr. Bernard, the Railway Company's Engineer at Tindaria, I failed to trace any of the persons attacked or their relations, and the information received on the subject from other sources is so indefinite and contradictory, that it is useless to comment upon it. At Tindaria itself only one case of cholera occurred, and that was the case of a young European engine-driver named Casey (aged 23), who was attacked on the 1st June, and died on the 2nd idem. The particulars of the case, which have been obtained from the most reliable and authentic sources, viz., from the railway records at Tindaria, a brother employé, and the persons who worked with Casey two days previous to his attack, are as follows :—

On the 31st May, Casey left Tindaria at 5-45 a.m., and drove an engine to Kurseong. He returned to Tindaria at 9-15 a.m., and left again at 9-55 a.m. for Darjeeling, where he arrived at 3 p.m. He left Darjeeling at 5-10 p.m., and got back to Tindaria at 9-10 p.m. Casey thus worked for about *fifteen and-a-half* hours on the 31st May, and travelled over a distance of 87 miles. The ordinary run of an engine-driver on the Darjeeling-Himalayan Railway is 50 miles a day. Any excess over that amount is voluntary, and is considered as overtime, for which the driver gets overtime allowance. Casey, it appears, had recently been appointed an engine-driver, and was anxious to earn as much money as he possibly could in order to support in comfort a sister in Darjeeling. On the 1st June, Casey commenced work at 7-30 a.m. He left Tindaria at that hour for the Terai and got to Sukna at 10-30 a.m. He left Sukna on the return journey at 11-5 a.m., and reached Kurseong at 4-5 p.m. At 5 p.m. he left Kurseong and returned to Tindaria, where he arrived at 8-40 p.m., and worked no more. He thus did a little over 11 hours' work on the 1st June, and travelled a distance of about 50 miles. Although this record is less than that of the previous day, it was, if anything, a harder day's work on account of the exceptional heat of the day, and the trying portion of the railway over which the early part of the day's work was performed. From careful enquiries made by Mr. Bernard and myself from the stokers who worked with Casey

on the 1st June, it appears that on the return journey from Sukna they were all very much overcome with the excessive heat—Casey more so than any of them. When they got to the 12th mile, they stopped as usual to water the engine, and Casey drank a large quantity of water from an adjoining jhora or stream. It appears that the water of this jhora is of notoriously bad quality, and that just about that time there had been several cases of cholera in the locality. It is not certain whether Casey was aware of this, but the probability is that he was. At any rate the stokers were, and refrained from drinking the water of the jhora, although they too were very thirsty. It appears also that they warned Casey not to drink the water, but to wait a little while longer until they got to a purer stream. Casey, however, being very thirsty said he could not wait, and drank the water. The rest of the story had better be told in the words of driver Fitzgerald, an intimate friend of Casey's, in whose house the latter died at 4-6 p.m. on the 2nd June :—

"On the 1st June I went up to Kurseong with Casey and returned with him that same day to Tindaria. He did not complain of being ill, and seemed all right. We arrived at Tindaria about 6.40 p.m., and Casey, after returning his engine to shed, walked to his bungalow, a short distance from the railway station. I accompanied him, and as we walked along, he complained of feeling fatigued. He had a wash and sat down immediately to his dinner. I sat and talked to him while he ate, and observed nothing unwholesome or unusual on the table. When he had finished his dinner, I left him and went to my own bungalow, which is next to his. After a wash I went into my verandah, from where I saw Casey vomiting in his. I asked him what was the matter, and he said he was feeling unwell; then he went inside and laid down. I also returned to my room and laid down. A few minutes later Casey strolled in and said—'Fitz, are you going to bed?' I said 'yes,' and then he went back to his bungalow. I turned over and dropped off to sleep. About half an hour later a knock at my door awoke me. It was Casey. He called out 'Fitz, open the door. I did so, and he said, 'I am feeling very ill; can I go to your bathroom (he had no bathroom furniture in his bungalow); help me in Fitz., for I am feeling very weak.' I helped him in. When he came out of the bathroom he insisted upon lying on the floor, although I offered him my bed. The cramps then came on, and shortly afterwards he collapsed. I was with him until the time of his death, which happened at six minutes past four o'clock in the afternoon of the next day. He was treated by the native medical officer attached to the Railway at Tindaria, but the treatment had no effect."

7. Such is the sad history of Casey's attack of, and subsequent death from, cholera. There can, I think, be no reasonable doubt that polluted water, and polluted water alone, was the medium through which the poison of cholera entered into his system, which being already debilitated by previous hard work and fatigue had not sufficient strength to battle with the disease. Not the slightest suspicion attached to his diet, which appears to have been wholesome. I carefully examined the cook, who declared that Casey ate nothing unusual during the last week of his life. I also examined the kitchen and cooking utensils, and discovered nothing suspicious about them. Tindaria is not an unhealthy locality. On the contrary it has the reputation of being, and in reality is, a particularly healthy place. Situated at an elevation of about 2,700 feet above sea level it enjoys a genial climate, and is out of the endemic area of cholera.

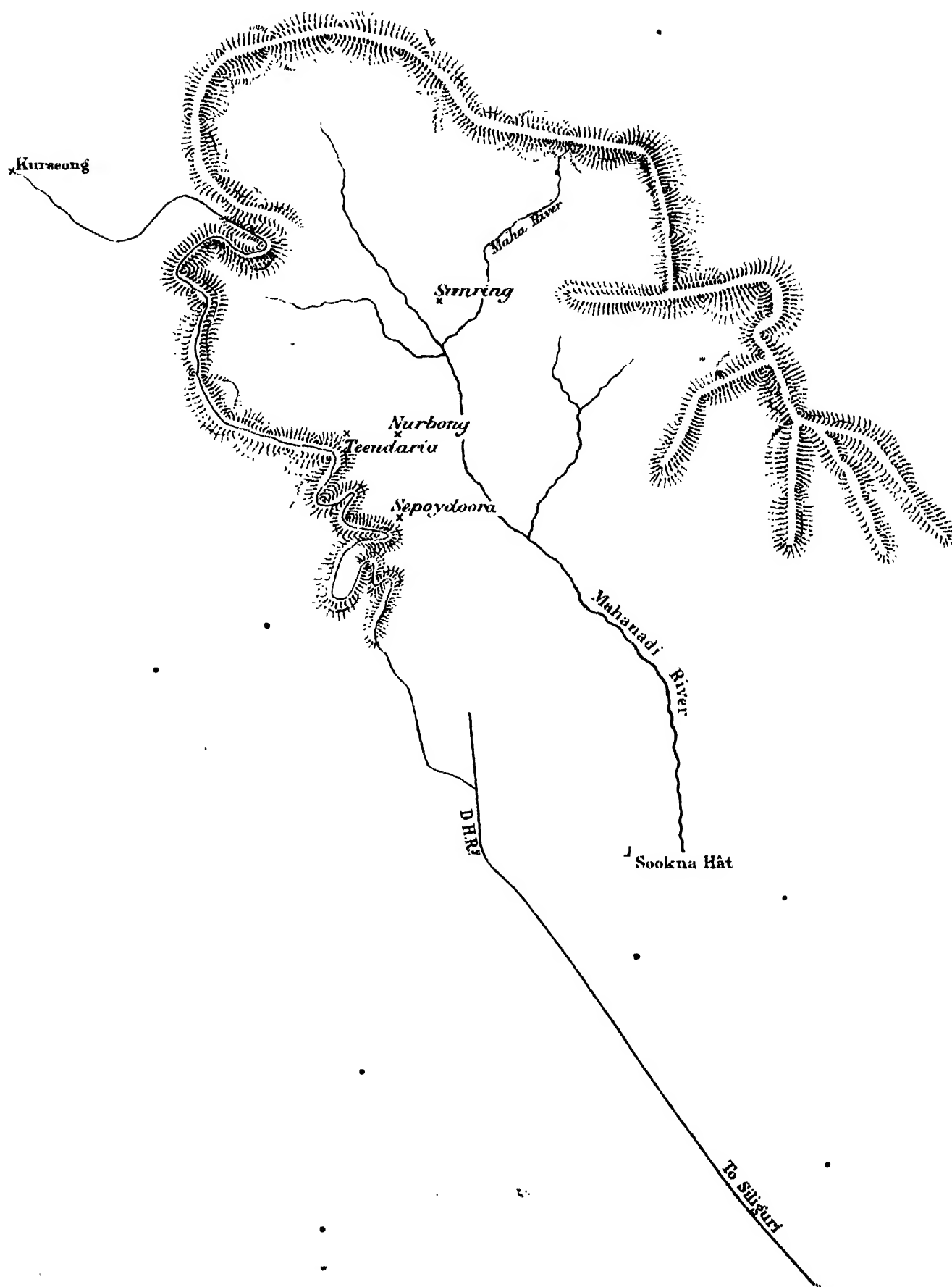
CHOLERA IN THE TEA GARDENS SITUATED IN THE MAHANUDDY VALLEY.

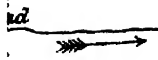
8. The third outbreak of cholera in the Darjeeling hills, into which I enquired on the 5th, 6th, and 7th of June, and again on the 18th, 19th, 20th, 21st and 22nd idem, occurred in some of the tea gardens situated in the Mahanuddy valley. There are 13 tea gardens in this valley, but only the four shown in the rough sketch on the opposite page were seriously attacked. There were isolated cases of cholera in some of the other gardens, of which it is not necessary in this report to take any particular notice. I had the greatest difficulty in arriving at the truth of the outbreak in the Mahanuddy valley, and had it not been for the very great assistance rendered me in the course of my enquiry by the managers of the several tea gardens I visited, specially by Mr. Court of the Sepoydoorah Tea Estate, and Mr. Nash of Simring, who were untiring in their efforts to procure me reliable information, I should not have been able to submit even an approximately accurate report on the subject. The accounts given by the Nepaulese coolies and others on the gardens were very conflicting, and in many cases absolutely contradictory and absurd. I do not believe that this was due to any desire on their part to deliberately misrepresent facts, but simply to ignorance, the slovenly habit of arranging their ideas and the attractiveness of exaggeration.

9. The outbreak of cholera in the Mahanuddy valley originated in the Sepoydoorah tea estates, and spread from there to the other gardens shown in the above diagram. The origin of the disease in the Sepoydoorah Tea Estates is thus described in an interesting letter I received from Mr. Court, the manager of that garden, on the subject before my second visit to the Mahanuddy valley :—

"The first outbreak I traced to a man who went into the plains to get buffaloes: he was taken ill in a basti, and his companion returned here and took three men with him to the basti, and the four men carried him up here. I treated him with Perry Davis' Painkiller, as I wanted to try its effects on diarrhoea; the man recovered, but within four days six people who lived in the hut got ill, and one after another died; it spread to the two next huts, and three more children (boys and girls over seven years) got it and died; two women got ill but recovered. * * * I had no more cases (except one woman who died after three hours' illness, but whose death I cannot put down to cholera) for three weeks. * * * On 1st May cholera broke out on Nurbong, the next garden, and it may have been carried there from my garden. The first outbreak (in the Sepoydoorah tea garden) was in a basti of 64 huts. * * * Three weeks after cholera had ceased here, two of my coolies who had been fishing in the Mahanuddy below Nurbong, and who on their way back took some Nurbong coolies who were very ill with cholera to the stream and gave them water to drink, got ill with cholera and both died, their wives and children bolted and left them to their fate. These cases took place in a basti of seven huts on the opposite hill to the basti first attacked. * * * One week later (26th May) a plains carpenter got cholera at 8 p.m. on Sunday

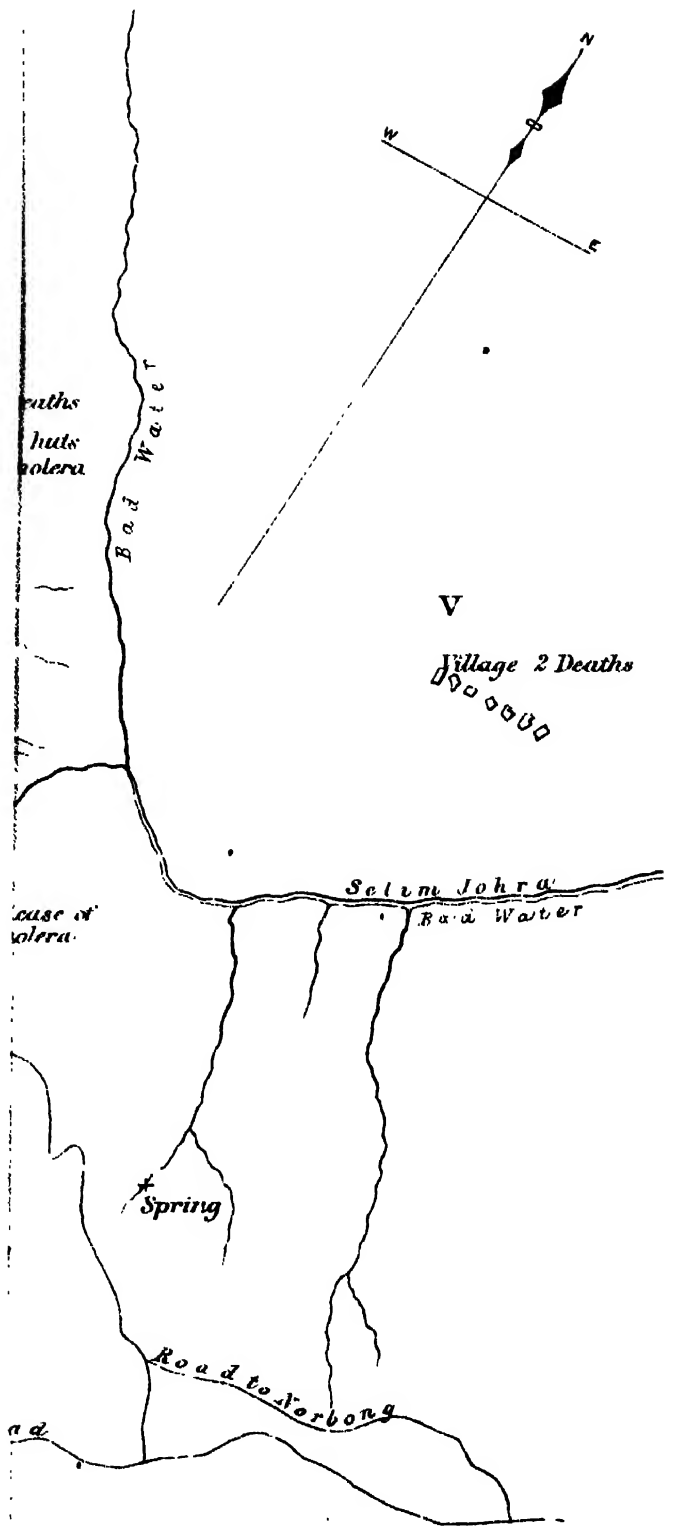
Sketch showing the approximate position of the Tea Gardens in the Mahanadi Valley most seriously attacked with Cholera.





attacked

II

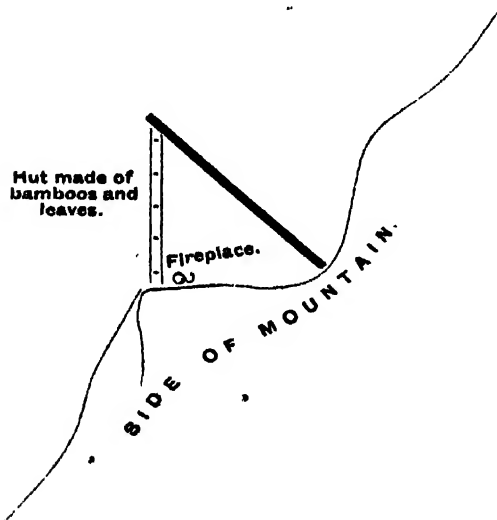


II 64 Huts
16 Deaths

night, and was dead by sunrise on Monday. I was away and he got no medicine. On the previous Saturday two carpenters had come from Simring and put up with him at the time cholera was very bad at Simring. On Monday, 27th May, a hill carpenter got ill in the morning, and was dead at 6 p.m. Four more men and women died the same day. In the next four days 20 more coolies died, all in the same busti * * *. I have no doubt that the cholera once started was carried on by the agency of water."

10. Mr. Court has done his best to keep the drinking water in his garden good, and it appears that from the 1st of March in each year, when it begins to get scanty, he keeps a special chowkidar to look after it, but in spite of these precautions there is no doubt that the water is polluted in various ways. A sketch map of the Sepoydoorah Tea Estate is given on the opposite page out of the eight villages on the estate shown in the sketch five were attacked with cholera, and that the largest number of deaths occurred in village No. VI. All the coolies in this village obtained their supply of drinking water from the Selimjhora shown in the map, the water of which is of notoriously bad quality, being polluted by the inhabitants of that village as well as by those of village No. VII. The cholera did not, however, originate in village No. VI; but, as stated in Mr. Court's letter, in village No. II, which consists of 64 huts. The drinking water of this village is obtained from springs which are said to be good, but it appears that it is allowed to stand for more than 24 hours, and sometimes for several days, in the huts before being used. Considering the number of people inhabiting each hut and their filthy habits, it is very probable that the water in many cases gets polluted before it is used. The Nepalese are a bright intelligent race, but of extremely filthy habits. It is a common practice with them to ease themselves in the immediate vicinity of their huts, and sometimes when they are ill, inside the huts! In these circumstances, it is hardly possible for the water kept in the huts for drinking purposes to remain pure.

11. It has already been said that the cholera spread from the Sepoydoorah Tea Estate



to the neighbouring gardens. On the Simring Tea Estate there was a very sharp outbreak of the disease which commenced on the 14th May in the persons of a tailor and his two children. The tailor, it appears, had been to the Sepoydoorah hât, where, cholera was present at the time on Sunday, the 12th May, and was taken ill on that evening. He recovered, but his children who were taken ill after him, died. There are five villages on the Simring Tea Estate, four of which are situated close together on the ridge of a hill, and obtain their supply of drinking water from the same source which is a polluted jhora, and the fifth is situated considerably higher up the hill and obtains its supply of water from a different source. Cholera raged in all of the four villages on the ridge, but did not attack the isolated village which obtained its water from a different and purer source. The panic in this garden was so great that the coolies fled into the jungles, isolated themselves as

much as possible, and lived a sort of primitive quarantine in groups of twos and threes in huts which they constructed for themselves somewhat after the design shown in the margin. Nothing would induce them to return to their work in the tea garden, until they were thoroughly satisfied that the cholera had ceased.

12. The outbreak of cholera on the Tindaria and Nerbong Tea Estates were also spread from the Sepoydoorah garden, and, like the outbreak at Simring, was then carried on chiefly through the medium of polluted water. It is not necessary to give details of the cholera in these gardens, as they resemble the outbreaks in Sepoydoorah and Simring, which have been described above.

13. After a prolonged and most careful investigation into the matter, I am convinced that the recent outbreak of cholera in the Mahanuddy valley is traceable to polluted water. The disease, it is true, was in the first instance imported from the Terai, which is within the endemic area of cholera, in the persons of affected coolies, who invariably on the first symptoms of cholera flee to higher elevations in the hills, but there is no doubt that it was afterwards spread through the medium of water, which was defiled not only by the filthy habits of the coolies, but also, and chiefly, by the voided excreta of the persons suffering from the disease. It is of course impossible to prevent isolated cases of cholera, but I am convinced that serious outbreaks of the disease, such as have lately been experienced in the Mahanuddy valley, can be prevented by greater attention being paid to the water-supply, which it is absolutely necessary to protect from contamination, and the only way to do this is to convey the water from its source by means of pipes to each village in the estate. This idea is effectively and inexpensively carried out in the Gunti Tea Estate, which is situated at the head of the Mahanuddy Valley. Through the courtesy of the manager Mr. Lennox, I was allowed to inspect the water-supply arrangements of his garden, and Mr. King, his Assistant, was kind enough to conduct me over the works. At a distance of 1,240 feet from the factory

on the opposite side of the hill, but at a considerably higher elevation, there is an excellent spring of water around which a stone reservoir has been erected, *vide* sketch No. 1 on next page.

This reservoir not only collects the water, but prevents it from being polluted by men and cattle. From the reservoir the water is carried along the side of the hill close to the villages or bustis by means of bamboo pipes, *vide* sketch No. 2.

The manager of the Gunti Tea Estate proposes next year to substitute 1-inch iron pipes for the present bamboo ones, and to connect the reservoir with a large tank in some convenient position of the garden. When this is done, the water-supply arrangements in this tea garden, which are already very good, will be perfect, and there will be absolutely no fear of contamination. The primary cost of iron pipes is of course considerably more than of bamboo ones, but as the former are durable, they are cheaper in the end and certainly more satisfactory than bamboos which require to be renewed every now and again. I am informed that the water-supply of the Gunti tea garden used to be of extremely bad quality before the present arrangements were made, but that now it is very good. At the Clarendon Hotel at Kurseong the water is carried by means of iron pipes from the source of a spring which is situated some distance up the hill direct to the hotel, and the consequence is that the water there is always of the purest quality. At the Tukvar Tea Estate near Darjeeling, I am informed that there is an excellent iron pipe system of water-supply. Unfortunately I had not the time to visit this garden, as I was obliged to leave Darjeeling suddenly on account of urgent private affairs, but I have no doubt that the Tukvar system is well known to most of the tea-planters in the district, and I would strongly recommend the agents of the tea gardens in the Mahanuddy Valley and in such other places in the district where the water-supply is scanty and liable to pollution, to allow their managers to adopt some such arrangements as are in force in the Gunti Tea Estates, the Clarendon Hotel at Kurseong and the Tukvar Tea Estate, for preserving the water from contamination, and thus reducing to a minimum the chances of an outbreak of cholera on their gardens.

14. While enquiring into the outbreak of cholera in the Mahanuddy Valley, it struck me that a short report on the geological formation (with special reference to the water-supply of one or two of the tea gardens, where cholera had been severe, might be of interest and of some use. I accordingly asked Mr. P. M. Bose, Deputy Superintendent, Geological Survey, stationed at Darjeeling, to visit the Mahanuddy Valley, and with the permission of the head of his department to submit a short report on the subject. He has done so, and an extract from his report is attached for the information of those interested in the tea gardens situated in the Mahanuddy Valley, particularly in the Sepoydhura and Nurbong Tea Estates.

15. It only remains for me in conclusion to add my most cordial thanks to the several gentlemen who helped me in the course of my enquiry, particularly to the tea-planters, to whose hospitality and kindness in procuring for me details of all the information available in their gardens I am much indebted. Before I undertook the enquiry, which is the subject of this report, I was under the impression that the planters as a rule were indifferent as to the health of their coolies, and took no interest whatever in sanitation, but I soon discovered that quite the contrary was the case. All the planters I had the pleasure of meeting take the greatest interest in the welfare of their labourers, and are keenly alive to the advantages of sanitation.

Extracts from a report on the Geological Formation (with special reference to the water-supply) of the Sepoydhura and Nurbong Tea Estates in the Mahanuddy Valley, Darjeeling District.

At the request of Surgeon-Major W. H. Gregg, Sanitary Commissioner for Bengal, I visited two of the cholera-stricken tea estates, viz., Sepoydhura and Nurbong, on the 26th of June, with a view especially to examine their water-supply.

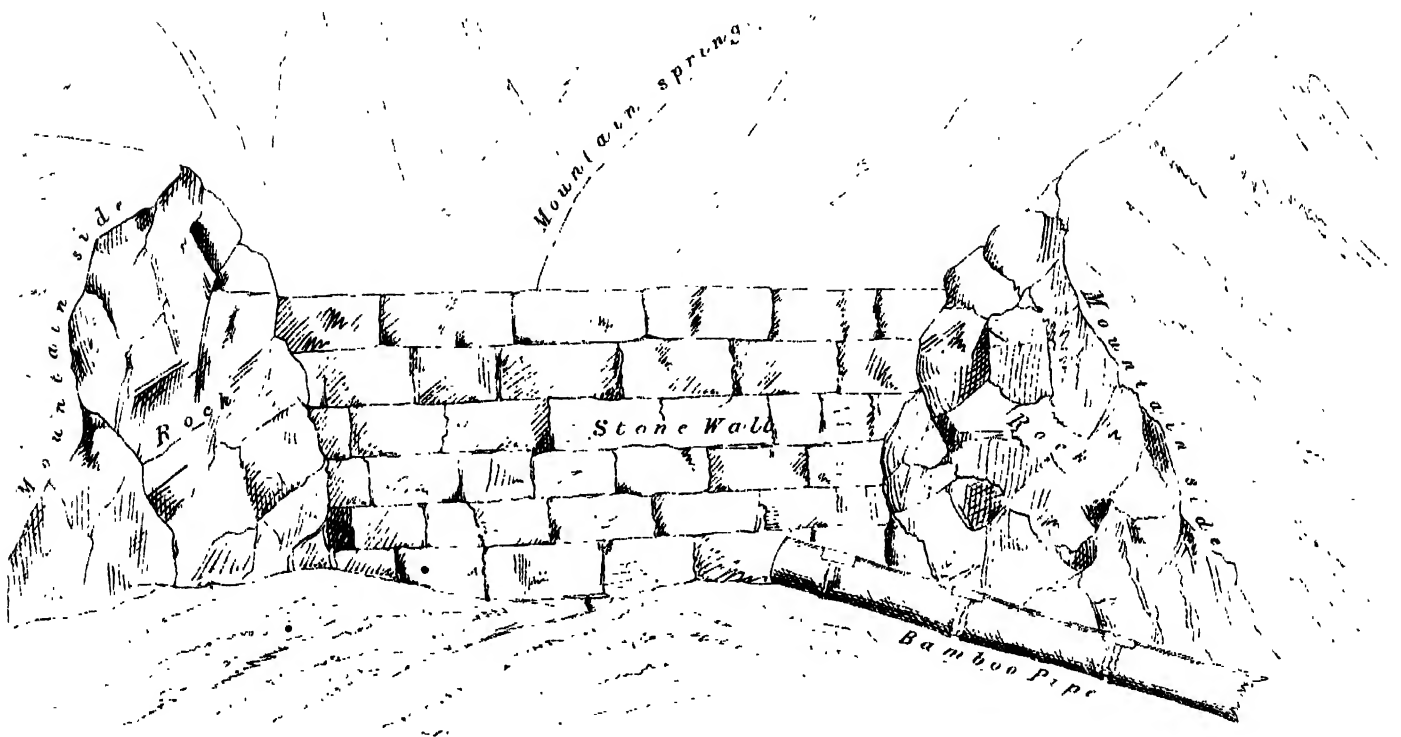
The water-supply on the tea estates is almost entirely under the control of the Managers. Good water and plenty of it will be ever welcome to the coolies, however little they may be amenable to sanitary rules.

The *dhuras* or *bustis* of the Sepoydhura and Nurbong estates are situated along the crests of spurs of the Sub-Himalayan Range, elevated about 2,000 feet above the sea-level. The situation is well chosen, for it protects the coolies to a great extent from the malaria of the deep valleys on either side of the spurs. The Sepoydhura spur, which runs in an east and west direction, is drained on the north side by a number of water-courses which feed a stream called the Selim jhora. On the south-side the estate is drained by feeders of the Panohanagi river. The Nurbong spur, which runs nearly north and south, is drained on the west side by tributaries of the Selim jhora, and on the east, by water-courses running into the Mahanadi.

Leaving out technicalities, the Sepoydhura spur (*i.e.*, the spur on which the bungalow of the Manager and nearly all the coolie *dhuras* stand) as well as the Nurbong spur may be described to be formed of rather fine-grained, soft, micaceous sandstones towards the top. These are of tertiary age. (Readers geologically inclined may consult "Memoirs of the Geological Surveys," volume XI, Part I.) Walking along the road from the bungalow of the Sepoydhura Manager to that of the Nurbong Manager, I met with nothing but these rocks. At Nurbong they contain small pebbles in some abundance, and are rather hard and massively bedded at places. Walking from the bungalow of the Nurbong Manager to the Pundi Hill, I met with some hard, sandy clay rocks, which appeared to be superposed on the sandstones. They are, however, of

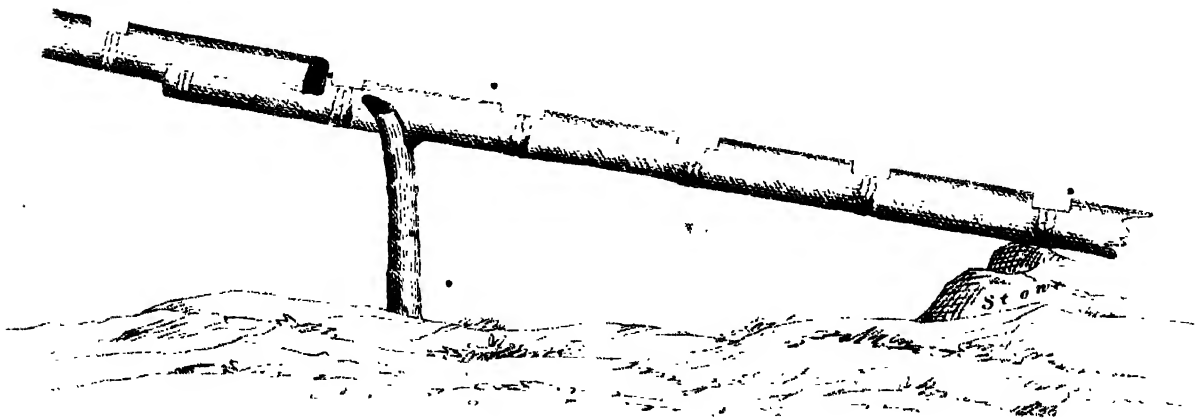
No. I.

Stone Reservoir erected around a mountain spring to collect the water
and protect it from pollution by men and cattle.



No. II.

Bamboo Pipes through which water is conveyed from the reservoir
to the villages in the Tea Garden.



insignificant extent, and the upper portion of the spurs—about 150 feet or so from the crest downwards—may be taken to be formed mainly of soft sandstones. The flanks of the spurs are much covered up, but they appeared to be chiefly formed of very hard, rather sandy, and micaceous clay rocks. All the beds roll about considerably, and no distinct dip (*i.e.*, inclination of the beds) was observed anywhere except just in front of Chunarabatti bungalow (former dāk bungalow). Here the dip is north-western. The general dip as given on Mr. Mallet's geological map of the area may be taken to be northern with slight deflection to east and west.

Sepoydhura Hāt, just below Chunarabatti, stands upon hard clay rocks. The short-cut

Present water-supply.

road from the plains to Darjeeling passes through it. A large number of coolies live in this *dhura*, and a hāt is held here every Sunday. The Selim jhora has one of its sources here; and the *dhura* in question obtains its water (which is very scant in the hot weather) almost entirely from this source. The other *bustis* of the Sepoydhura estate are situated on the Sepoydhura spur mentioned above. They depend for their water-supply on several water-courses which run into the Selim jhora, and which, I was told, become more or less dry in the hot weather. I was shown only one spring, on this estate, which yields a very scanty supply in the hot weather. There may be more spring, but I doubt if their supply is more copious. On the Nurbong estate I was shown three springs which yield a very scanty supply in summer. Two of these are situated on the eastern flank of the Nurbong spur, and the third on the western flank close to the factory. There is a fourth spring near the southern boundary of the Nurbong estate which would yield a never-failing supply. But it is far out of the way; and unless water could be pumped up from it and distributed to the *bustis* in pipes, it would be of no use. The Selian jhora at Nurbong is a good flowing stream throughout the year, but is too

Not satisfactory.

far below the *bustis* to be utilised by them. The springs which I saw are all surface springs, situated along the slopes of the spurs. The water of each spring is collected into a shallow pool not exceeding 3 feet in depth, and no precaution is taken to prevent its contamination by surface drainage. The pools were full at the time of my visit; but they must be dry, or very nearly so, in the hot weather. So altogether the water-supply of the tea estates I visited is not satisfactory; before the break-in of the rains, it is far from abundant and wholesome. Mr. Douglas, Manager of Nurbong, has been thinking of taking up water from the spring near the southern boundary of the estate mentioned above. But the scheme would entail heavy expense; and before attempting it a simpler and far less expensive plan may be tried.

Before I make any suggestion as to how the present water-supply could be improved,

Permeability of the rocks.

it is necessary to premise some information for the general reader. Of the rocks mentioned above, the sandstones which constitute the upper portion of the Nurbong and Sepoydhura spurs being mostly soft, and to a great extent porous, allow the water to percolate through them with facility. They are the water-bearing rocks of the area. Amongst them, however, the disintegrated uppermost sandstones being loose and crummy are far more permeable than the harder and more compact lower sandstones. The hard clay rocks, on the other hand, are, in comparison with the sandstones, far less permeable. This fact could be easily ascertained by chipping off bits of the rocks in the rains; the sandstone would be found wet through, and the clay rock dry inside. Briefly speaking, the sandstone may be said to be pervious or permeable, and the clay rock impervious or impermeable. The rain which falls on the sandstones partly runs off the surface and partly sinks down. The water which percolates down the soft porous upper sandstones, finds a check in its downward course in harder and less permeable sandstones or in the clay rocks; and if there be an opening it flows out: such openings are the springs of the Nurbong-Sepoydhura area. The sandstones take in their stock of water almost entirely in the rains; and as this stock is not replenished to speak of during the rest of the year, it becomes well nigh exhausted in summer, and the spring supply proportionately impoverished.

The clay rocks, though impermeable relatively to the sandstones, being themselves somewhat sandy, become through disintegration rather permeable towards the surface, though to a far less extent than sandstones in a similar position. Water percolating down the disintegrated upper sandy clays is stopped by hard clays underneath, and sometimes comes out as springs. The springs of the Chunarabatti area (including Sepoydhura proper, where the hāt is held) are springs of this nature.

Most of the springs of the Nurbong-Sepoydhura area are in the sandstones; and

Suggestions for improving the water-supply.

below them there is some thickness of these rocks through which water percolates downward. I would suggest that a well be sunk on the site of a spring until the clay-rock or very hard and compact sandstone is reached (see diagram attached). The depth will vary according to the circumstances of each case; but in no case will it probably exceed 20 feet. The well holding not only the water of the existing spring, but also that percolating through the lower rocks, is expected to yield a more copious supply throughout the year. The water having been filtered through sandstones will be sufficiently wholesome; and in order to prevent its contamination by surface drainage, some suitable masonry work should be built at the top, leaving of course the spring open, and providing for one or two outlets for the water to flow out when the well is full. The expense of such an excavation will be trifling.

If a spring be situated just above a considerable thickness of impermeable clay rocks, it will be of no use digging through them. In such a case a well may be sunk from some convenient site down to the level of the spring.

With regard to Sepoydhura proper (just below Chunabatta), a well through the disintegrated upper sandy clay rock down to harder and more impermeable rock underneath in some convenient site, will I think be found useful.

I have made these suggestions with special reference to the geological structure of the Sepoydhura and Nurbong tea estates. They would, however, be applicable, *matatis mutandis*, to other estates. I have asked the Manager of the Nurbong estate to sink one or two trial wells of the nature suggested above. If the plan succeeds, it may be tried more largely.

DARJEELING,
The 3rd July 1889.

P. N. BOSE, B. Sc. (LOND.), F.G. S.,

Deputy Superintendent, Geological Survey.

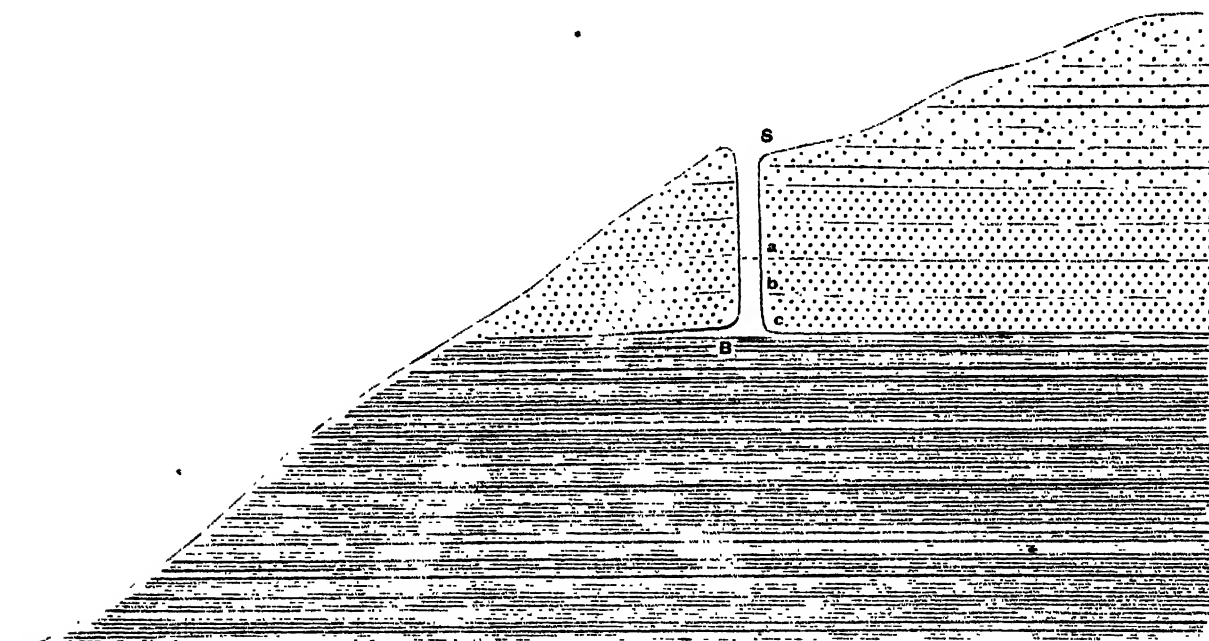


Diagram showing the situation of the suggested well (A B). It may be carried down to a, b, or c, the depth being determined by local circumstances. The dip of the beds is disregarded.

S. Situation of existing spring.



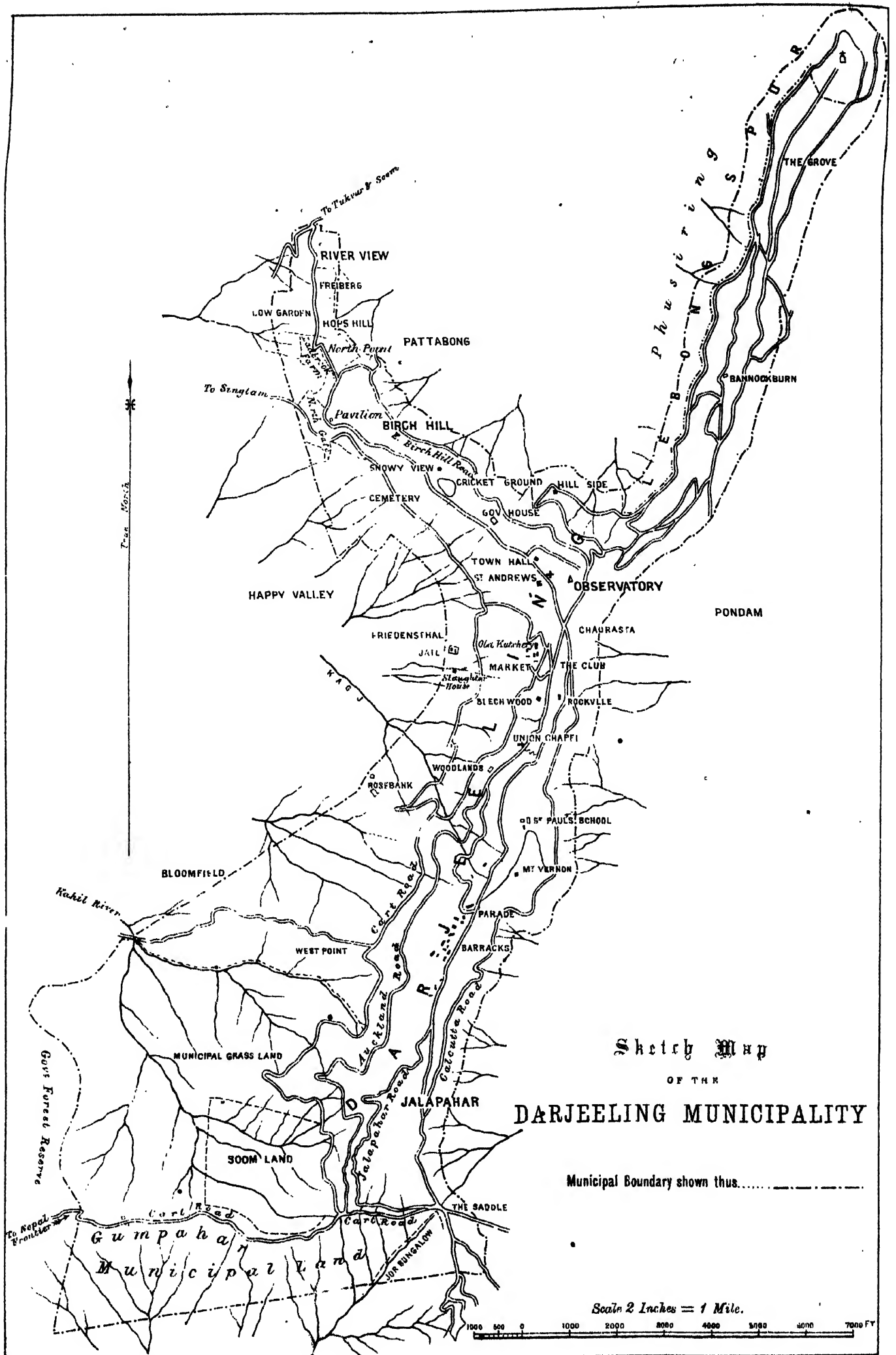
Upper more or less disintegrated sandstones.



Lower, harder, closer grained sandstone.



Clay rocks.

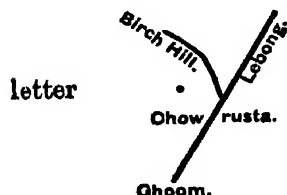


DARJEELING MUNICIPALITY.

THE Municipality of Darjeeling having since its constitution in the year 1850 been managed by a succession of able and energetic Commissioners, who have had the advantage, in many instances, of valuable advice and suggestions from some of the cleverest and most experienced officers of Government, who have resided in their midst for a few months of every year, it would be a matter of surprise if its government and sanitary arrangements, which are also assisted by the natural formation of the land, a bracing climate and a fairly large revenue, were not all that could be desired. My expectations, however, were more than realised when I made an inspection of the town in June last. Darjeeling is, without exception, the cleanest, most healthy, and best managed Municipality I have yet inspected, and the Municipal Commissioners deserve great praise for the efficient manner in which they have performed the duties of their trust. The active interest taken by the official Chairman, Mr. A. W. Paul, Deputy Commissioner of Darjeeling, in the affairs of the Municipality is so well known to the public that it does not need any word of mine to place on record how much he has done to promote the welfare of the station. The Vice-Chairman also, Captain Power, takes a keen interest in all that concerns Darjeeling, and being himself a large landed proprietor in the district has the affairs of the Municipality at heart, and is a very efficient officer. The Municipal Commissioners, of whom there are 25, including the Chairman, seem to work together for the benefit of the town heartily and in unison, which is the secret of the success municipal administration has attained in Darjeeling.

The Municipality being in such excellent working order, it is difficult for a newly-appointed Sanitary Commissioner and a stranger to the place, such as I am, to suggest much in the way of improvement in my first inspection report. The few matters, however, which struck me as being capable of improvement I will deal with presently, after giving a brief description of the town for the benefit of those who are not well acquainted with it.

The town and station of Darjeeling, which owes its origin, like Simla, Masuri and other hill stations, to the necessity that exists in India of providing places where the health of Europeans may be recruited by a more temperate climate, is situated near the northern boundary of the hills division of the district, in $20^{\circ} 2' 48''$ north latitude and $88^{\circ} 18' 36''$ east longitude. It occupies a ridge of the Himalaya mountains, stretching from south to north, which, at a point called the *Chowrusta*, about the centre of the station, gives off two spurs, one to the right and the other to the left, known respectively as Lebong and Birch Hill. The ridge on which the station is situated is very narrow at the top, along which most of the European houses are perched, while others occupy positions on its flanks. The Eden and Jubilee Sanitariums, the police lines, the bazar, and the Railway stations are built on the lower portion of the western slope of the ridge, and below these lie the jail, the Botanic Gardens and the native town, chiefly occupied by the poorer classes of natives, and consisting of huts built without method or regularity. In shape, Darjeeling resembles the capital



letter

vide sketch map on opposite page.

Almost all the houses in the town are built of bricks or stone, and roofed with corrugated or plain iron sheets, some of the buildings, such as the Shrubbery, the new Government offices, the Sanitarium, the Deputy Commissioner's house, and the villas belonging to His Highness the Maharajah of Cooch Behar and other residents, being exceedingly picturesque. The effect which the sight of the station produces upon a new comer as he gradually wends his way down the Himalayan Railway from Ghoom is charming, and he forgets the fatigue and tediousness of the journey by inhaling the cool breeze from the snowy range. The Municipality has an area of 5.50 square miles, and contains an ordinary population of about 7,018 souls according to the census of 1881; but being the great summer resort in Bengal from the heat of the plains, the population necessarily fluctuates considerably according to the season of the year. It is estimated that in the summer months the population is about 12,000. The income of the Municipality for the year 1888-89 amounted to Rs. 1,19,199, excluding an opening balance of Rs. 26,520. The expenditure amounted to Rs. 1,39,616. The year thus closed with a balance in hand of Rs. 6,103.

The drainage of Darjeeling is very good, and is gradually being further improved year by year. Nearly all the drains are made of stone, and all those in the bazar and native town, as well as the important drains in the European quarter of the town, have been soled with Mirzapore stone or half round glazed drain tiles, which makes it an easy matter to flush and keep them clean. The arrangements in connection with latrines, of which there are a good number, burial-grounds, markets, roads, registration of births and deaths, vaccination, and dispensaries are most satisfactory. The only matters which struck me as being capable of improvement are the arrangements in connection with the disposal of the town refuse, the water-supply, and the crowding together of huts in the native portion of the town. The sites chosen for the cremation of the bodies of dead Hindus and for the burning of carcasses of animals are also objectionable, and should be removed if more suitable

sites further from habitations can be found, as complaints were made to me by the head-master of the Bhootea School and others living in and about that locality of the objectionable smells they sometimes experience when the sites in question are being used. But as they are so seldom brought into requisition, the nuisance complained of is not considerable.

DISPOSAL OF REFUSE.

The town refuse of Darjeeling consists mainly of street-sweepings, stable manure, and cook-room garbage. It is collected in carts and conveyed to a spot below the compound of Beechwood Cottage in the native part of the town, north-west of the market, and is thence carried down to the wooden "shoot" by a wire tramway 1,000 feet in length, which is thrown obliquely across the Chandmara Jhora. The shoot is situated beyond the left bank of the Chandmara Jhora at the head of a stream, which is dry except in the rains. This stream enters the jhora a long way down the hill near the junction of the stream with the Kag Jhora, a tributary of the Little Rungeet river. The shoot is 788 feet long, $5\frac{1}{2}$ feet wide, and 2 feet deep, and has an inclination of over 45° . *Mehlers* are employed along the course of the shoot to keep its channel free from obstruction, and at the bottom of the shoot to remove the rubbish to some distance and throw it further down the khud. To prevent the accumulation of rubbish which has hitherto not been put to any useful purpose, a large portion of it is burnt during the dry season, but still a great accumulation takes place at the lower end of the shoot, which has given rise to a question concerning the pollution of the water of the Little Rungeet river by drainage from it. As the rubbish heap has not yet reached the bed of the Chandmara and Kag Jhoras, it cannot contaminate the water of those streams or the Little Rungeet river in the dry season, but it is probable that during the rains a considerable quantity of the rubbish is carried bodily down into the Kag Jhora, together with a large quantity of the organic matter in the water which has percolated through the rubbish heap. But as much of the impurities in their course from the rubbish heap to the Little Rungeet river are removed by oxidation, subsidence, the action of plants, insects, crustaceæ, fishes and the like, I doubt whether the water of that river is polluted to any appreciable extent by the town refuse of Darjeeling. It is, however, distinctly objectionable to have a festering mass of organic matter so close to the residences of the people, and the question of devising some other method of disposing of the refuse should engage the early attention of the Municipal Commissioners. It has been suggested that the present wire tramway might be lengthened so as to carry the refuse further down the khud. But such an arrangement would not remove the nuisance: it would only carry it a little further off, and would possibly render the water of the adjoining streams more liable to pollution than they are at present. Another suggestion is to give the refuse to the neighbouring tea-planters for manure. This is an excellent idea, and if it could be carried out, would solve a very difficult problem in connection with the disposal of the rubbish. I am informed, however, that the refuse has already been offered to the planters, who do not consider it worth their while to incur the cost of removal. I cannot understand this, as there is no better manure than the matter which composes town refuse, and in England and on the Continent agriculturists are always most anxious to get as much of it as they possibly can, and even to pay largely for it. I would suggest that another effort be made to induce the neighbouring tea-planters to take the refuse. If it is again unsuccessful, the Municipality might consider the practicability of removing the refuse in specially constructed trucks by rail to a suitable site near Ghoom. Such a site could probably be found off the Nepal Frontier Cart Road, which branches off from the Ghoom station in a westerly direction. The cost of constructing a branch line from the Ghoom railway station to the selected site would not, I understand, be prohibitive. By disposing of the refuse in this way, it would be a nuisance to nobody, and would remove all fear of an outbreak of disease emanating from the present rubbish heap in the station. Another satisfactory way of disposing of refuse is by burning it in incinerators, as the Calcutta Municipality hope to do. The only question is how an incinerator would act in a moist climate like that of Darjeeling, where the average annual rainfall is not less than 133.09 inches. It appears from enquiries I have made on the subject, that although several attempts have been made in various parts of India to burn town refuse, the experiment has not yet been successful anywhere. I would, therefore, advise the Darjeeling Municipality not to try burning until the result of the experiments about to be tried in Calcutta is known. If they succeed in Calcutta, the trial of similar experiments might be made in Darjeeling, but the important difference of rainfall between Calcutta and Darjeeling must not be lost sight of in coming to a decision in the matter.

WATER-SUPPLY. .

The water-supply arrangements of Darjeeling have, I am informed, undergone great improvements within recent years. The water is obtained chiefly from natural springs in the Sinchal hill through a six-inch main pipe to the eastern foot of the Jallapahar hill near Jorebungalow, and thence through a four-inch pipe to the collecting reservoir near Rookville boarding-house. From this reservoir it is distributed to the town in pipes of various sizes as circumstances require. In the rains the water-supply is more than sufficient, but in the dry months I am informed that it is insufficient not only for drain flushing, but sometimes also for domestic purposes. The Municipal Commissioners might consider the possibility of increasing the supply of water at Sinchal in the dry season. It has been suggested that a second main pipe should be laid down, but I should think that there would be no necessity for such

a large outlay of expenditure if the catchment area at Sinchal were enlarged so as to collect a greater quantity of water than it is capable of holding at present. The main pipe and the reservoir near Rockville would thus be constantly full, and there would always be a supply of water equal to the demand. In the course of my enquiry into the water-supply of Darjeeling, my attention was drawn to the prevalence of hill diarrhoea in the station during the rains, which is generally attributed by the residents to the water, and a system of filtration, similar to that in Calcutta, but on a smaller scale, was suggested. If this could be managed, it would certainly purify the water, but I am afraid the cost would be prohibitive, especially as money is required for other improvements. I do not, however, share in the popular idea that it is altogether the water that causes hill diarrhoea. I rather think with Dr. Ballard of London that the cause resides frequently in the superficial layer of the earth, where it is intimately associated with the life processes of some micro-organism, and that the vital manifestations of such organism are dependent, among other things, perhaps principally, upon conditions of season and on the presence of dead organic matter in the soil which during the dry months of the year, when there is a scarcity of water for flushing purposes, is sown, so to speak, and afterwards developed and air-borne. On the basis of this hypothesis, care should be taken to prevent, as far as possible, the fouling of the soil with matters out of which the material of diarrhoea can be produced—a matter which involves such flushing of drains and sewers as shall carry away all liquid filth without allowing the passage of any such impurities into the surrounding soil, and which also necessitates a frequent removal of all other filth about dwellings which cannot be conveyed to drains and sewers—indeed a daily scavenging of premises, especially during the dry months of the year.

OVERCROWDING IN THE NATIVE TOWN.

It struck me that there was overcrowding in certain portions of the native town which might be remedied without much inconvenience or expense. Plenty of light and fresh air are of the first principles of sanitation, and are so essential to good health, that they should be secured at any cost. The Municipality should therefore jealously consider applications for the erection of new dwellings in already crowded localities, and take such steps as may be expedient with a view to provide more ventilation in and between the existing huts.

W. H. GREGG, M.B.

Sanitary Commissioner for Bengal.

Dated Calcutta, the 3rd September 1889.

REPORT ON THE TOWN OF NATTORE WITH SPECIAL REFERENCE TO THE FLUSHING OF THE MOATS IN THE TOWN.

No. $\frac{T}{123}$, dated Darjeeling, the 11th October 1889.

From—SURGEON-MAJOR W. H. GREGG, Sanitary Commissioner for Bengal,

To—The Secretary to the Government of Bengal, Municipal Department.

I HAVE the honour to submit the following report regarding the flushing of the moats in the town of Nattore.

2. In compliance with the orders of Government, communicated to this office in Municipal Department endorsement No. M $\frac{N}{1}$ -11, dated the 15th February last, I visited Nattore on the 17th, 18th, and 19th July, and carefully and minutely inspected the moats and the surrounding country in company with some of the local authorities. The result of my inspection has already been communicated demi-officially to Government, and I have now the honour to submit an official report on the subject.

3. Nattore, the ancient capital of the district of Rajshahye and at present the head-quarters of a sub-division, is situated about 30 miles east of Rampore Beaulah on the north bank of the Narad river in 24° 25' 15" north latitude and 89° 2' 21" east longitude. The town built on low marsh land reclaimed from the river, has always been noted for its insalubrity. It is centrally situated, however, and on that account was first selected as the administrative capital of the district. Nattore is a close and compact town clinging close around the Rajbari, or palace of the Nattore Rajas. This family first rose into power in the earlier half of the last century, and gradually obtained possession of almost the entire district. At the time of the Permanent Settlement of Lord Cornwallis, the celebrated Rani Bhawani was the representative of the family, and her piety and indiscriminate charity induced her to make large alienations of property for religious and charitable purposes which with other causes have seriously diminished the estate. At present the Nattore estate holds only the third or fourth rank in Rajshahye in point of size, although the historical importance of the family gives it considerable prestige.

4. The present controversy regarding the flushing of the Nattore moats and the cleansing and purifying of the water of the Lal Dighi arose, I understand, out of the objection of the Raja to allow the moats to be flushed by a cut from the Narad river, which, in the opinion of the local authorities who have been consulted on the subject, is the source from which the moats should be periodically cleaned out and purified. I am sorry to disagree with such authorities as the Magistrate, the Inspector of Local Works, and the Engineer of the district; but after a most careful, minute and personal local investigation, I feel convinced that the moats should be flushed by a channel from the Godai river north

of the town, and not from the Narad river, which would be a mistake for the following reasons :—

Nattore is surrounded and intersected by numerous bheels, of which the Chulan bheel, which lies some distance to the east of the town, is the largest. The slope of the country, and consequently the natural flow of the drainage, is in a south-easterly direction, indicated by a large red arrow in the map submitted to Government with my demi-official of the 22nd July. It will thus be observed that the drainage does not pass into the Ganges which skirts the southern portion of the district, but into the bheels to the east, particularly the Chulan bheel. The Ganges in its course along the district of Rajshahye gives off a large branch called the Burrul, which traverses the south-eastern portion of the district and communicates with the Chulan bheel. The Burrul gives off a branch, called the Godai, which flows from west to east about four miles above or to the north of Nattore. This river is not shown in the district map of Rajshahye published by the Survey Office in September 1883, but nevertheless it exists, and is a broad and navigable stream along which I saw a number of large country boats on their way back to the Ganges. The Narad, which is a stream about half the width of the Godai, flows immediately to the south of the town of Nattore. This stream was a branch of a tributary of the Burrul, called the Musakhan nadi, and is considerably silted up at its mouth. The consequence is that, except for 10 or 12 days in the month of September, when the water of the Musakhan nadi is very high, the direction of the stream instead of being from west to east as reported to Government is actually from east to west, thus carrying with it not the water of the Ganges, but the water of the Chulan and other bheels which, though clear, has the reputation of being unwholesome. It will thus be seen that if the moats were flushed from the Narad river, they would not be flushed with good Ganges water as supposed, but with the water of the bheels which receive the drainage of the country and which must therefore be unwholesome. The Godai river, on the other hand, contains good potable Ganges water, and, in my opinion, is the river from which the moats should be flushed. The distance of this river from the town seems at first sight an objection to the proposal, but as a matter of fact there will be no difficulty or expense in this or in any other respect. Within recent years a channel, apparently originally intended for irrigation purposes only, has been cut by the Raja to within a short distance of the moats. If this channel were connected with the moats, as it could easily be, all difficulty would be removed, and the inhabitants of Nattore would at once have an abundant supply of good Ganges water which could be used as often as necessary in flushing out the moats, a sluice-gate being constructed to keep in or let out the water from the channel as required. The Raja is quite agreeable to this arrangement, which has his entire approval, and before I left Nattore had actually set over 100 men to work at the proposed extension of the channel, which I understand has long since been completed. The question of ingress having been solved, the next question is that of egress. There will be no difficulty about this, as the excess water from the moats will overflow into the drainage canal of the town which runs to the east of the Rajbari, and will then flow with the drainage of the town in an easterly direction to the bheels. The present drainage arrangements might, however, be improved as follows: The Narad to the east of the town formerly gave off a channel which flowed in a north-easterly direction. This channel has in recent years become very much silted up, and is now obliterated at its mouth. I do not propose to remove this obliteration; but I think that if the rest of the old channel were deepened and the accumulation of silt in some places removed, it would carry off much of the drainage of Nattore which at present finds its way into the moats.

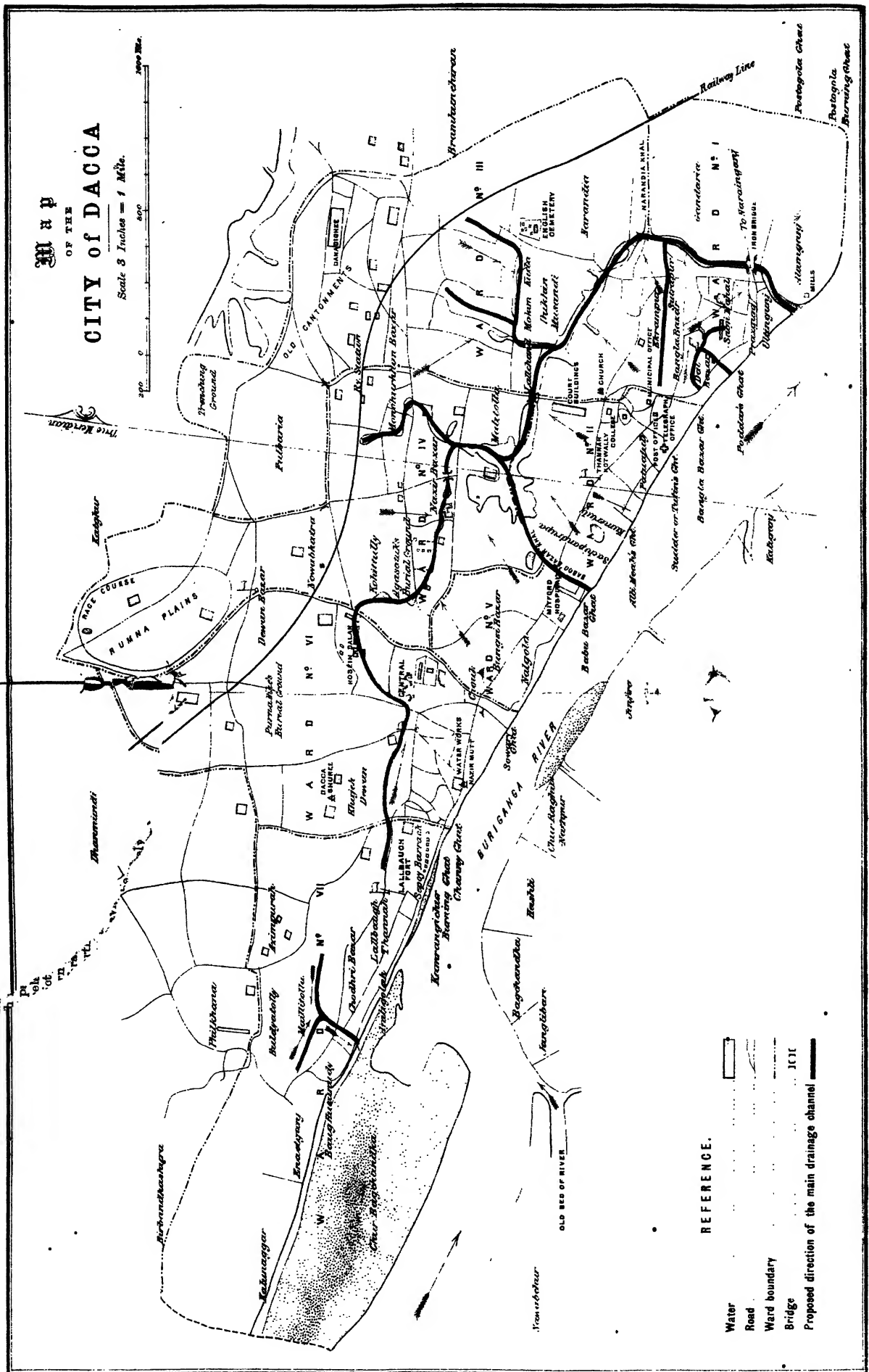
5. Lastly, with regard to the Lal Dighi, the Municipality have since my visit been taking steps to remove all the latrines from the immediate vicinity of the water and to raise the banks of the Dighi. The Chairman of the Municipality has reported that almost all the most objectionable latrines have already been removed, and that the others will be removed as soon as possible, the delay being due to the opposition of the people living in the neighbourhood, which however is gradually giving way to the perseverance and persuasion of the Municipal Commissioners. There will, in my opinion, be no necessity to flush the Lal Dighi when the latrines on its banks are removed and the water guarded against pollution; for, taking into consideration the size of the tank and the depth of the water in it at all seasons of the year, the action of plants, fish and other animal life will quickly render the water pure and wholesome.

6. In conclusion I might mention that both Mr. Alexander, the Commissioner of the Rajshahye Division, and Dr. Russell, the Civil Surgeon of Rajshahye, with whom I have discussed at length and in detail the subject matter of this report, agree with me that, under the circumstances of the case, the most satisfactory mode of flushing the moats in the town of Nattore is from the Godai river in the manner suggested in this letter.

DACCA MUNICIPALITY.

The city of Dacca, which is the principal town and civil station of the district of that name, was inspected by me on the 4th, 5th, 6th, and 7th September 1889. It was the first time I had seen the place, and I was very much interested in it. Leaving Calcutta by the 9-30 p.m. train of the 3rd September, I arrived at Goalundo, the eastern terminus of the Eastern Bengal State Railway, early next morning, and proceeded at once by steamer to Naraingunge, a large and influential town which may be called the port of Dacca. The first thing that impressed me on my journey to Dacca was the size and extent of the Ganges (Padda), down which one has to steam in order to get to that city. This river, as it is called, is an enormous expanse of water during the rainy season of the year, many miles in breadth, and in places looks more like an inlet of the sea than an ordinary river, and when, as often

MAP OF THE CITY OF DACCA Scale 3 Inches = 1 Mile.



- REFERENCE.**
- Water
 - Road
 - Ward boundary
 - Bridge
 - Proposed direction of the main drainage channel

happens, there is a strong breeze blowing in the opposite direction to the swift current, the waters are so boisterous that one almost imagines one is out at sea. From Naraingunge to Dacca is only a distance of about nine miles, which is performed by rail. Dacca is a very old and interesting city, and was at one time the seat of a Mahomedan Satrapy. It is situated on the north bank of a river called the Boorygunga, a branch of the Brahmaputra, which is about the same width as the river Hooghly opposite Calcutta. Within recent years the town has been extended westward, and the new houses and streets, which have been constructed according to 19th century ideas, stand out in striking contrast to those of the old town which was built during the middle ages. This contrast greatly adds to the interest of the old town which comprises more than three-fourths of the Municipality, and consists of streets and lanes mostly narrow and crooked. The houses which face the street are generally very narrow, and from one to four stories in height. In parts of the old city inhabited by particular castes, such as the weavers' and shell-cutters' bazars, where building ground lets at a high rent, many of the four-storied houses have a frontage of only eight or ten feet, while the side walls, unperforated either by doors or windows, run back to a distance of twenty yards. The extremities of these buildings are roofed in: the middle part of the dwelling is left open and constitutes a small court. The city of Dacca lies in north latitude $23^{\circ} 43' 20''$, and east longitude $90^{\circ} 26' 10''$, and is bounded on the south by the river Boorygunga, on the east by a low alluvial plain which extends to the Lakhmia river, and on the north and north-west by a tract of jungle interspersed with old Mussalman cemeteries and deserted gardens, mosques and houses now in ruins. During the rains the lower levels of this portion of the environs are inundated, and the town is insulated by a labyrinth of creeks and morasses that join the Boorygunga and Lakhmia rivers.

The Dacca Municipality was established in 1864 under the provisions of Act III (B.C.) of 1864, and is now governed by Act III (B.C.) of 1884. It is divided into seven wards, and is composed of 21 Commissioners, including the Chairman. Fourteen of the Commissioners are elected by the rate-payers, and seven are nominated by Government. The area of the Municipality is five square miles, and the population, according to the census of 1881, is 80,161, of whom 42,752 are males and 37,379 females. Classified according to religion, the population is as follows:—475 Christians, 40,300 Hindus, 39,328 Mahomedans, 11 Buddhists and 47 belonging to other denominations. The income of the Municipality for the year 1888-89 amounted to Rs. 1,53,462, excluding an opening balance of Rs. 2,603. The expenditure during the year was Rs. 1,55,107. The year thus closed with a balance in hand of Rs. 958.

The sanitary arrangements of the town of Dacca have, I understand, received much attention in recent years from the Municipal Commissioners, who now seem to be taking a real interest in the affairs of the Municipality, and to be doing their best to make the town as attractive and healthy as possible. There is still, however, a great deal for them to do, and I trust they will not flag in their endeavours to accomplish the desired end. The roads and communications throughout the city are for the most part well kept, and were in excellent condition when I inspected them. The arrangements in connection with markets, public latrines, registration of births and deaths, vaccination and cremation, are also satisfactory, and I have no special remarks to make under these heads, particularly as I understand that the Municipal Commissioners are conscious of the existing defects, and are gradually doing their best to remedy them. The most important and urgent requirements of the Municipality at present are:—

- (1) An extension of the drinking water supply.
- (2) A comprehensive drainage scheme.
- (3) Improvements in the conservancy arrangements and additional trenching grounds
- (4) Additional burial-grounds.

WATER-SUPPLY.

Through the princely munificence of Nawab Sir Abdool Gunny and his son Nawab Assanulla, the people of Dacca have received the blessings of a pure water-supply—the first necessity—though not the only one of sanitary progress. The present supply is 200,000 gallons a day, which, however, is unfortunately insufficient to meet the requirements of the town, the supply per head of population being only about $2\frac{1}{2}$ gallons, against 40 gallons a head in Calcutta. The Municipal Commissioners are, however, taking active steps to raise a loan in order to be able to extend the water-supply, and it is hoped that within a short time there will be an abundant supply of pure water in the most important parts of the town; but even after the proposed extension the water-supply will be only $3\frac{1}{2}$ gallons a day per head of population. I was conducted over the water-works by Babu Jogendra Chundra Aich, the Secretary and Engineer of the Corporation, who was also kind enough to explain to me the system of filtration, which is quite as elaborate as that followed in Calcutta, as the following comparison of the two systems will show:—

CALCUTTA (FULTA).

3 feet 6 inches.	2 feet 6 inches of fine river sand.
	4 inches of Mugra sand.
	2 inches of pebbles.
	Two layers (6 inches) of bricks.

DACCA.

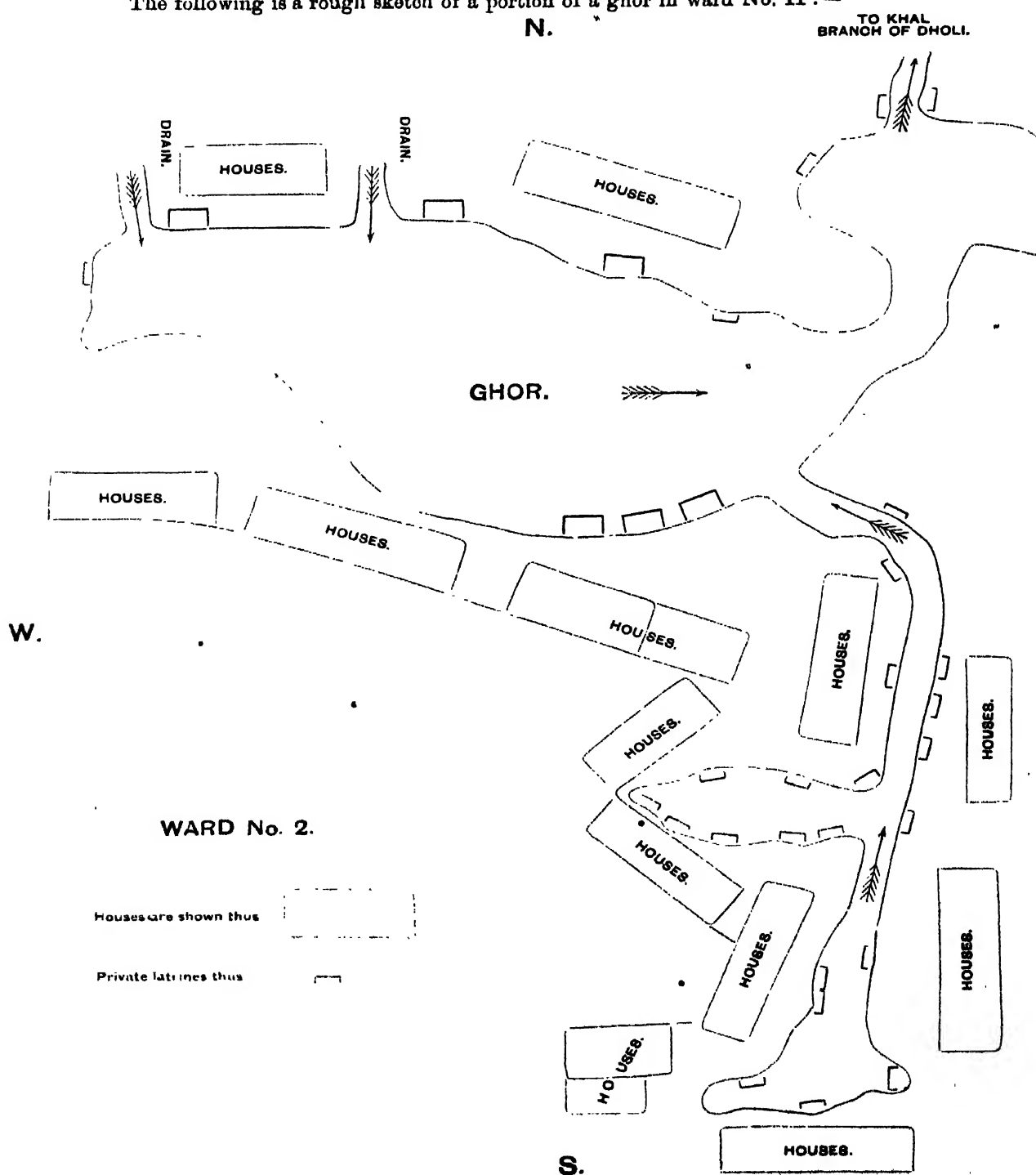
3 feet 4 inches.	$1\frac{1}{2}$ feet of Dhalasari river sand.
	6 inches of Mugra sand.
	1 inch of broken stone.
	1 foot 3 inches of vitrified bricks.

DRAINAGE.

Next to an extension of the water-supply, the most urgent want of the Municipality is a comprehensive drainage system. The present drainage arrangements are very defective, and

the sooner the question is taken up and dealt with, the better it will be for the health of the people of the town, the majority of whom are at present living in the concentrated essence of filth of all descriptions, as there is no proper drainage to carry it away. In all flat and lowlying towns an efficient drainage system is always a matter of difficulty; but when, as in Dacca, the land is only about 20 feet above mean sea-level, the difficulty is very great, and it is unfortunately increased by the difficulty of working a drainage scheme by means of sluice gates (as is done in other towns in Bengal situated on the banks of tidal rivers), because of the enormous volume of flood water which for two or three months of the year checks the action of tides in the Boorygunga river. Were it not for this difficulty, the drainage of Dacca could easily be worked by means of sluice gates in its numerous creeks and drains; but as it is, it will, I am afraid, be extremely difficult to do so. The Engineer of the Corporation and I, after fully discussing the subject, carefully went over the Municipality with the aid of a map on which the levels of the ground were marked, and also watched the flow of the water in the several trenches, ditches, and drains, by which means we were able to discover the natural flow of the drainage of the land. The result of our labours is shown by a thick black line in the accompanying map, which indicates the direction the main drainage channel of the city should take. It will be seen that the proposed main drain passes through many of the old moats or ghors as they are called, with which the city is studded. These moats or ghors, I am told, at one time far back in the middle ages when the city was built, ran one into the other and formed the main drainage channel of the city, and a protection to the houses which are built on either side of them, the houses themselves being built on the earth dug out of the ghors.

The following is a rough sketch of a portion of a ghor in ward No. II :—



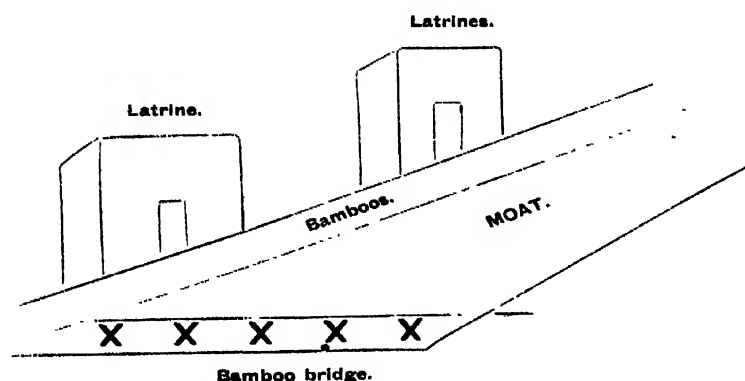
One cannot help admiring the design and forethought with which these ghore were originally made, and regret that the object was lost sight of in successive ages, during which they have been allowed to get silted up in parts, filled in and built over in others, and otherwise obstructed until now they are nothing better than stagnant pools of filthy house and cook-room refuse and solid and liquid excreta from the numerous latrines which crowd their banks, to most of which at present the municipal sweepers can get no access as they are completely shut out from the thoroughfares. Many of these old moats will have to be opened out again, for, as stated above, in the scheme prepared by the Engineer and myself, marked out in the map attached to this report, they will form part of the main drainage channel of the city. When a proper main drainage channel has been constructed, it will be a comparatively easy matter to connect with it the smaller drains and ditches of the city.

In connection with the moats I would suggest that the banks of those of them on which houses are not built should be planted over with fast-growing trees on both sides.

CONSERVANCY.

The conservancy arrangements of the city of Dacca require looking into at once, as at present they are either altogether neglected or very imperfectly performed. It has been stated in the preceding paragraph on drainage that the banks of the moats, which abound in Dacca, are covered with private latrines, to most of which the municipal sweepers cannot at present obtain access. The result is that both the solid and liquid contents of the latrines find their way into the moats, and there they remain for the greater part of the year. In some cases portions of the walls connecting the houses have been broken down, so as to make a passage for the mehters to get to the latrines. In other cases, particularly in the north-

east portion of the town, where the latrines overhang the moats, the mehters can only get access to the latrines by crossing the moats by means of rough bamboo bridges (*vide* sketch in the margin), and the temptation in such cases to throw the contents of the latrines into the moats is so strong that the sweepers can scarcely resist it. Such a state of things should not be allowed to exist in a large and wealthy municipality like that of Dacca, which is governed by an influential and intelligent body of Commissioners, and I trust that



attention will at once be given to the subject. Steps should be taken to provide easy access for the mehters to and from the private latrines, no portion of the night-soil should be allowed to find its way into the moats, and the whole of it should be conveyed to the trenching grounds and there buried. The public latrines, of which I had not time to inspect more than a few, are satisfactory, but in future when new ones are constructed, one of the plans given opposite page 29 of the Annual Report of the Sanitary Department for 1888 should be selected, as those plans are by far the most suitable for Indian mofussil towns.

As regards trenching grounds, there is at present only one in the Municipality, and that one is situated in Ward No. IV at the extreme north of the city. This is quite insufficient for the requirements of the town, and great delay and inconvenience are, I am told, in consequence experienced in disposing of the night-soil. There should be at least two more trenching grounds, one about the middle of Ward No. VI, and the other to the south-east of the English cemetery in Ward No. III.

BURIAL-GROUNDS.

A large new burial-ground has just been opened in Ward No. VI, as the old burial-ground in Ward No. IV, which is situated about the middle of the Municipality, has recently been closed under the orders of the Government of Bengal, as it was reported by the Civil Surgeon to be overcrowded, dangerous to the health of the town, and unfit for further use. The new ground, which I understand, is about 50 biggahs in extent, is well adapted for the purpose of a burial-ground. Care should be taken that it is properly drained, that fast-growing trees are planted in it, and that the graves are arranged in a methodical manner, *i.e.*, in rows, and not anyhow as in the old ground. The only drawback to the new burial-ground is that it is a long distance from the eastern half of the Municipality, and for this reason I would recommend that an additional site be acquired and set apart for a burial ground in the eastern portion of Ward No. I, to meet the requirements of the inhabitants of the eastern half of the town. The expense would not be great, while the advantage and convenience would be considerable.

In conclusion, my acknowledgments are due to Mr. Worsley, the Commissioner of the Dacca Division, for many valuable hints and suggestions; to Babu Iewar Ohunder Das, the Chairman, and Babu Gopi Mohan Basak, the Vice-Chairman of the Municipality, and to several of the Municipal Commissioners for the assistance they afforded me during the course of my inspection: also to Babu Jogendra Ohundra Aich, the Secretary and Engineer of the Corporation, who accompanied me throughout my inspection, and helped me considerably with his opinion and advice on engineering matters connected with the drainage of the Municipality.

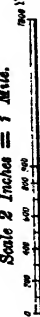
DARJEELING.

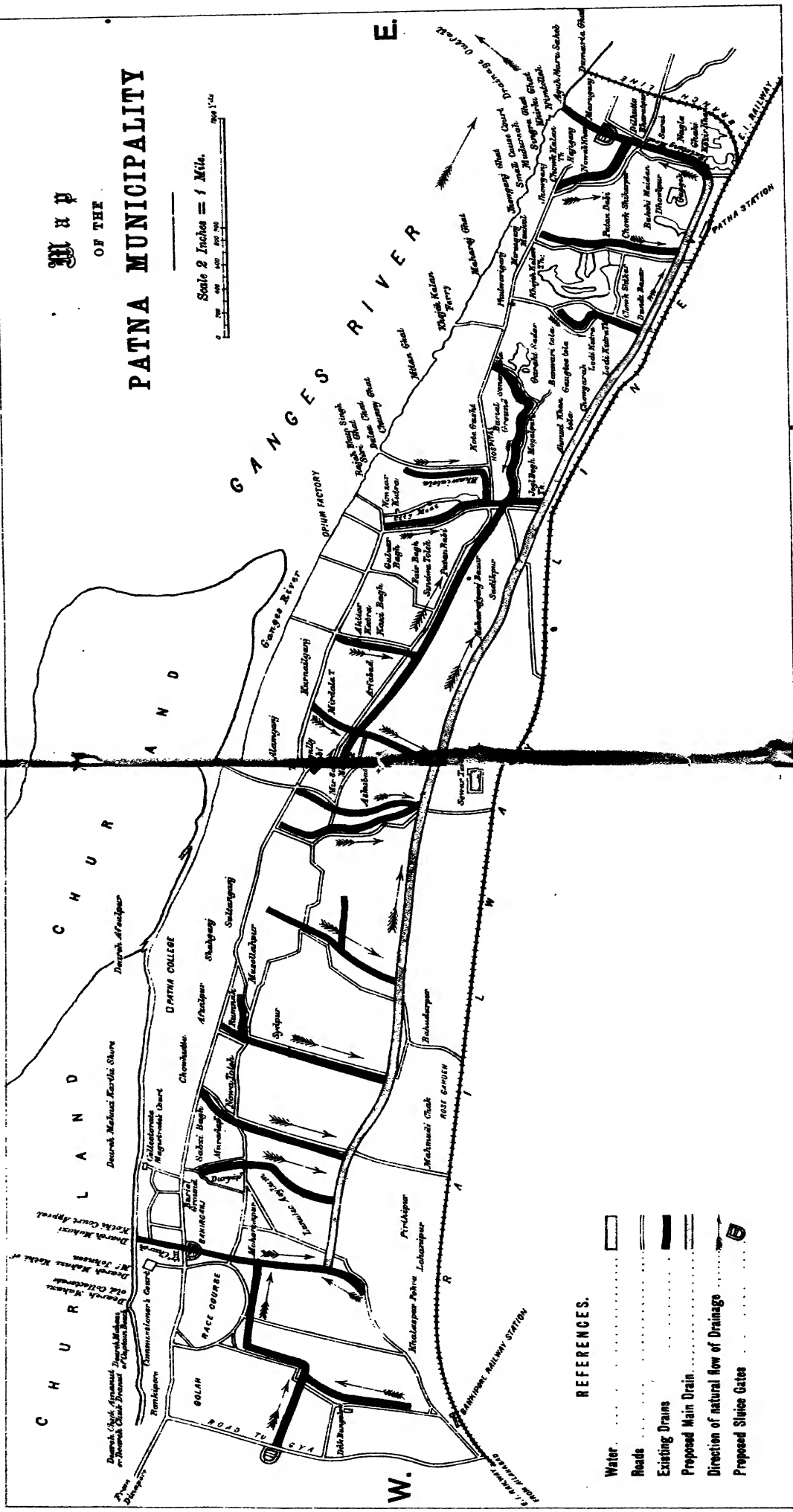
The 17th October 1889.

W. H. GREGG, M.B.,

Sanitary Commissioner for Bengal.

OF THE **PATNA MUNICIPALITY**

Scale 2 Inches = 1 Mile.




REFERENCES.

- Water.
- Roads.
- Existing Drains.
- Proposed Main Drain.
- Direction of natural flow of Drainage.
- Proposed Sluice Gates.

PATNA MUNICIPALITY.

THE Municipality of Patna, which is the largest and most populous municipality in Bengal excluding Calcutta, was inspected by me on the 24th, 25th, 26th, 27th, 28th, and 29th October 1889. It is situated on the right or south bank of the Ganges about 335 miles from Calcutta, in latitude $25^{\circ} 37' 15''$ N., and longitude $85^{\circ} 12' 31''$ E., and consists of the old and famous Patna City and Bankipore, the civil station and administrative headquarters of the Patna district. The Municipality extends from east to west, and is about nine miles long by about a mile to a mile and-a-half broad. Many of the houses are built of brick, but the majority are composed of mud with tiled roofs: very few are thatched. On the whole the dwellings of the people are smaller, not so well built and less comfortable than those of the inhabitants of Lower and Eastern Bengal. The cause of this is probably to be found in the fact that the people of Behar are poorer than their brethren in Lower and Eastern Bengal, which is also, I understand, the reason why the incidence of taxation in Patna is so low compared with other large municipalities. In Patna the rate of taxation is only 10 annas per head of population, against Rs 1-4-1 a head in Dacca and Rs. 2-8-3 a head in Howrah. Taking into consideration the insanitary condition of the Patna Municipality, which I am sorry to say is very backward in this respect compared with other large Bengal towns, and the urgent need of money for necessary sanitary improvements, I think the present low rate of taxation might fairly be raised a little, for even after making allowances for the comparative poverty of the people, it must be admitted that 10 annas a head is a very low rate of taxation for such a large and populous Municipality as Patna, which is the centre of a considerable trade in castor-oil seed, wheat, rice, and other grains.

2. The Patna Municipality was established in 1864 under the provisions of Act III (B.C.) of 1864, and is now governed by Act III (B.C.) of 1884. It is divided into six wards, and is composed of 30 Commissioners, including the Chairman. Twenty of the Commissioners are elected by the rate-payers, and ten, including the Chairman, are nominated by Government. The area of the Municipality is 9.60 square miles, and the population, according to the census of 1881, is 160,237, of whom 78,762 are male, and 81,475 females. Classified according to religion, the population is as follows:—355 Christians, 118,958 Hindus, 40,892 Mahomedans, and 32 belonging to other denominations. The income of the Municipality for the year 1888 89 amounted to Rs. 1,29,415, excluding an opening balance of Rs. 12,173. The expenditure during the year was Rs. 1,27,514. The year thus closed with a balance in hand of Rs. 14,074.

3. Although it is stated above that the sanitary condition of Patna is backward compared with other large Municipalities, the Municipal Commissioners have not been inert or altogether unmindful of their duties. Within recent years the following improvements have been effected, which have greatly added to the benefit and appearance of the town. A large unhealthy swamp, which lay to the south-east of the Municipality, has been reclaimed; the marsh has been deepened into a handsome tank, and the surrounding ground considerably raised and converted into a park. A very good pucca drain has been made in ward No. 2, several roads and lanes have been constructed, repaired, or widened, some public iron latrines have been provided, and a number of other useful and needed improvements have been effected, and some are now being carried out. The Commissioners have also, I understand, considered the question of a water-supply scheme, but owing to the very large sum of money such a scheme would require, and the many other and more urgent needs of the town, the question has been abandoned, and I think wisely for the present.

4. The greatest and most urgent want of the Patna Municipality is a good drainage system. At present the drainage arrangements are shockingly bad: in fact there is no drainage system at all worthy of the name, and the result is that water collects and stagnates in several parts of the Municipality. This is at the bottom of the insanitary condition of the town. With a good drainage system the health and cleanliness of Patna would soon improve. Without it it will be impossible to improve the existing state of things, which, as stated in paragraph 1, is backward and insanitary. There is, a good deal of latent, or if I may use the expression, crystallizing energy in the Municipality, and all that is required is a practical application of it, especially in the matter of drainage. A map of the Municipality is attached, showing, among other things, the present and proposed drainage channels. The thick black lines show the existing large drains, and the red line the proposed main drain which need not be pucca but kutchra, and constructed as shown in the margin. The northern portion of the Municipality near the bank of the river being about 10 feet higher than the land adjoining the East Indian Railway line on the south, and the land to the north-west of the



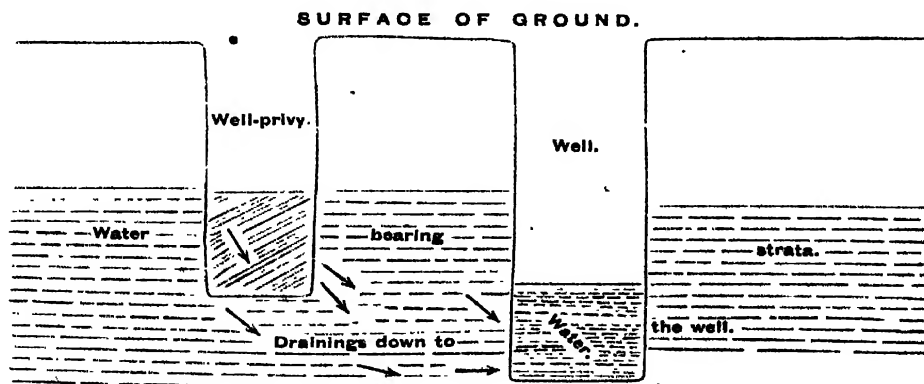
Municipality higher than that to the south-east, the natural flow of the drainage is in a south and easterly direction away from the river. The main drain should, therefore, be situated in the low land in the southern portion of the town, with an outfall to the east, where there happens to be an old moat through which the water could find an easy outlet into the river. In recent years this moat has become silted up in parts, but there would be no difficulty or much expense either in removing the silt and deepening the moat to the level of the main drain. The existing drains indicated by thick black lines

in the map are mostly in the right direction, but they do not act freely on account of the levels in them being defective. This should be seen to and remedied as soon as possible. When this is done, the proposed main drain constructed, and the moat attended to as suggested above, there will be an uninterrupted flow of water throughout the Municipality with an outfall into the river below the town, and the drainage of Patna will then be as good as it is possible to make it for the small sum of money which the above improvements will cost, and which might be met from the subscriptions raised in 1876 for the reception of His Royal Highness the Prince of Wales, and which were not spent for that purpose. The direction of the main drain has been specially and carefully selected, not only with reference to the natural hollows and slope of the land, but also with regard to some old and partially obliterated drains, through which it will run, in order that the cost of constructing it may be reduced to a minimum.

In close connection with the drainage of Patna are the inundations which occur every year, and cause a great deal of sickness, sorrow, and suffering, to say nothing of the damage which they do to property. It appears that when the Ganges is in flood during the months of August and September, a large volume of water flows into the Municipality through a channel on the east side of the church, and also through culverts in the Gya road which is to the west of the town. As there is no outlet for this water, it saturates into the soil and causes the evils referred to above. It seems to me after a careful examination of the localities in question that the ingress of water from the river could be easily checked by the construction of sluice gates at the places where the water flows in, and also in the moat to the east of the town, which is to form the outfall of the proposed drainage system. With these three sluices, which are marked on the map attached to this report, the flood water of the Ganges could be easily and effectually kept in check, and the town thus saved from the annual inundations from which it at present suffers.

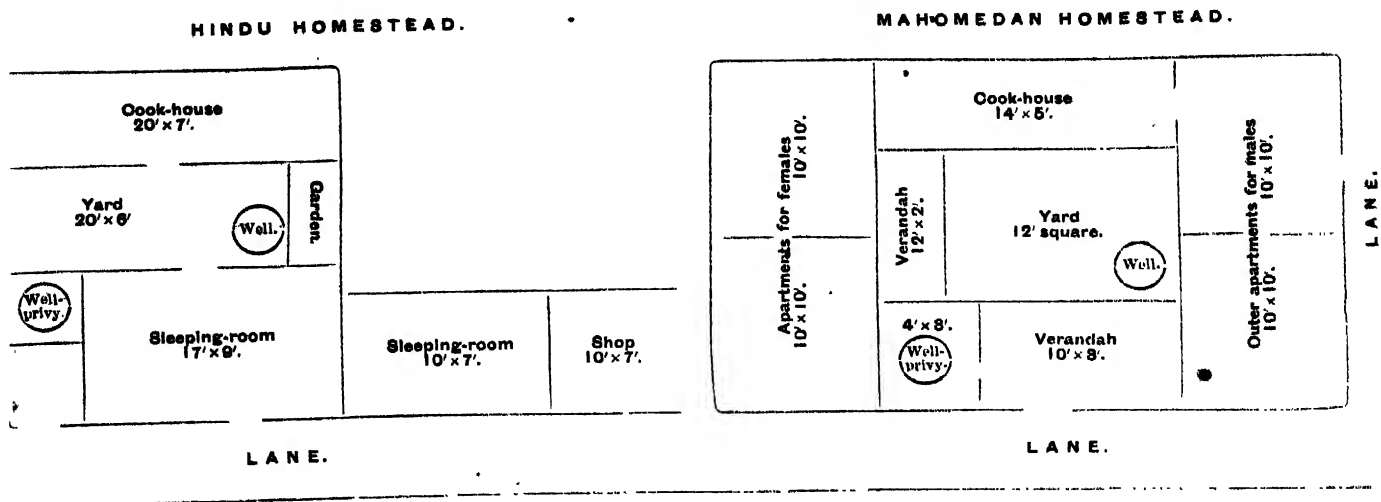
One word more in connection with drainage before I pass on to other subjects, and that is with regard to the two drains which open into the river east of the opium godown and west of or above a large and much frequented bathing ghât. These drains should be made to open into the river east of or *below* the bathing ghât, as at present they carry the dirty water of the locality past the ghât, which is a nuisance to bathers.

5. Almost if not quite as necessary as a good drainage system for the improvement of the sanitary condition of Patna is the closing of the well-prives, or sundases as they are called, with which the town abounds. I was shocked to learn that there are upwards of 20,000 of these abominable contrivances scattered over the Municipality. Apart from the sickening smell which they emit, nothing could be more deleterious to the health of the inhabitants of the town than to be living in the concentrated essence of such an atmosphere as surrounds these privies. I am aware that the use of well-prives is a time-honoured custom with the poorer classes of the people of this country, and that chiefly on that account it would be difficult and a hardship to at once abolish them altogether. I do not therefore suggest that such a drastic measure should be taken, but what I do recommend is that no new well-privy should be allowed to be dug, and that those that already exist should be gradually closed and filled up with clean earth. If the danger of, and objection to, well-prives were properly explained to the rate-payers, and a little moral pressure brought to bear upon them, I feel certain they would soon grasp the situation, and assist the Municipal Commissioners in putting an end to an evil which cannot be exaggerated, and which might any day be the cause of a terrible outbreak of sickness in the town. There can be little doubt that it is in a great measure owing to the proximity of well-prives to the water sources, which they *must* contaminate, that cholera and other diseases are so prevalent in Patna. As the tendency of all impurities in the soil, especially focal impurities, is to be gradually carried away with the subsoil water, which is always in a state of motion, in the direction of the nearest water-course, tank or well, it will easily be understood by a glance at the following illustrations how liable the water of domestic wells is to be contaminated by the focal matter in well-prives which are situated in the same compound as the wells :—



N.B.—The arrow marks indicate the manner in which the impurities from the well-prives would find their way through the subsoil into the well.

During the course of my investigations in Patna, I visited several of the houses of the poorer classes, and in each one of them the atmosphere was perceptibly polluted by the existence of well-privies which are actually within the very walls of the houses, and are never cleaned! The following typical illustrations of a Hindu and Mahomedan homestead in Patna show the situation of well-privies and their close proximity to the water wells :—



It does not surely require any extraordinary intelligence to grasp the danger to health that such a state of things threatens. On the contrary, it is difficult to understand how such plague spots as well-privies are allowed to exist in civilized towns. Every endeavour short of coercion should be used by the Municipal Commissioners to induce the people to discontinue the practice of using well-privies, and to substitute in their stead latrines (*protabs*) accessible to the Municipal sweepers, so that they may be easily and regularly cleaned. The Municipality might also help the rate-payers in bringing about the desired change. In connection with this subject I wish to draw the attention of the Municipal Commissioners to the extensive and promiscuous open-air defecation and the consequent pollution of the soil that takes place in several parts of the Municipality, especially at Chornia Ghât, Dholi Ghât, and Payara Bhuthyear. This objectionable practice is no doubt due to the want of a sufficient number of properly constructed and cleanly kept latrines, of which I noticed only a few in the Municipality. More public latrines should be provided as soon as possible, and they should be constructed in accordance with one of the designs given opposite page 29 of the Annual Report of the Sanitary Department for the year 1888, care being taken to provide separate latrines for males and females. Separate apartments for the two sexes in the same latrine are not so desirable or acceptable to the people as distinct latrines altogether for the women, which should not be approached by the road leading to the male latrine, but by a distinct road.

6. Before concluding, I would draw the attention of the Municipal Commissioners (1) to the unsatisfactory registration of vital statistics in Patna; (2) to the need for properly regulated slaughter-houses, of which there are none at present; and (3) to the necessity of re-organizing the present unsatisfactory system under which the work of the Municipality is carried on. With regard to the registration of vital statistics, so much has recently been written not only in my Annual Report for 1888, and the Resolution of the Government of Bengal upon it, but also in the special circular I addressed last month to all municipalities on the subject, that I need do no more than invite the serious attention of the Municipal Commissioners to those papers, and again ask them to give the matter their earnest consideration. As regards the third point, viz., the re-organization of system, I cannot do better than invite attention to the remarks made on the subject in the last Inspection Report of Patna by my predecessor, with whom I agree, and also by Dr. Nicholson, the late Civil Surgeon, who recently addressed the Municipality in the matter. The absence of centralization of authority is one of the greatest evils of the system under which the affairs of the Patna Municipality are at present administered.

7. In conclusion, my acknowledgments are due to the Municipal Commissioners, especially to Moulvie Syud Fuzl Imam, Khan Bahadur, Vice-Chairman of the Municipality, for the valuable assistance they afforded me during the course of my enquiry; also to Mr. Parsick, the Engineer of the Municipality, who helped me considerably with his advice on engineering matters connected with drainage.

W. H. GREGG, M.B.,

The 22nd November 1889.

Sanitary Commissioner for Bengal.

HOWRAH MUNICIPALITY.

I INSPECTED the Howrah Municipality on the 5th, 16th, 17th, 21st, 23rd, 28th and 29th November, and was accompanied at intervals by several of the Municipal Commissioners and employés of the Municipality; also by some of the other residents of the town.

2. At the end of the last century, Howrah is described in the records of the Board of Revenue as a small village held by a Mr. Lovett, who petitioned the Board to be allowed to relinquish it. Since that time it has gradually risen and prospered with the growth of Calcutta, and is now the most important town in Bengal next to Calcutta. It is the head-quarters of the magisterial district of Howrah, and is situated in latitude $22^{\circ}35'16''$ north and longitude $88^{\circ}23'12''$ east, on the west bank of the river Hooghly opposite Calcutta to which it is connected by a massive and unusually wide pontoon bridge, which was constructed across the river in the year 1873-74. The length of Howrah is about 8 miles, and the breadth about $2\frac{1}{2}$ miles. The town is lighted with gas, and is the terminus of the East Indian Railway. It has several mills and manufactories of various sorts, and some important docks for the repair of ships. It has a Town Hall, a large maidan, and two good substantial bridges built over the railway connecting the northern portion of the town with the southern portion, where all the public offices, the jail and the hospital are situated. Howrah is also the resort of a large number of people whose business lies in Calcutta, and its interests and association generally are closely and intimately connected with that city.

3. Howrah was originally constituted a municipality in 1862, but the present Municipality was constituted under Act III (B.C) of 1884. The town is divided into ten wards, and is composed of 30 Commissioners, including the Chairman. Twenty of the Commissioners are elected by the rate-payers, and ten, including the Chairman, are appointed by Government. The area of the Municipality is about eight square miles, and the population, according to the census of 1881, is 90,813, of whom 53,153 are males and 37,660 females. The excess of males over females is explained by the fact that the population includes a large number of artisans and labourers who come from various parts of Bengal to work in the industrial establishments in Howrah and do not bring their families with them. Classified according to religion, the population of Howrah is as follows:—1,894 Christians, 68,138 Hindus, 20,514 Mahomedans, and 267 belonging to other denominations. The income of the Municipality for the year 1888-89 amounted to Rs. 2,71,520, excluding an opening balance of Rs. 13,501. The expenditure during the year was Rs. 2,81,856. The year thus closed with a balance in hand of Rs. 3,165.

4. The Municipality of Howrah being so closely connected with Calcutta, not only as far as situation is concerned, but also in the matter of business and interests generally, must be judged by the same high standard as one would judge the other Suburban Municipalities of that city. Judged by such a standard, I am sorry to say the Municipality of Howrah falls far short of expectation. Indeed I am compelled to remark that even comparing it with other first class Municipalities remote from Calcutta, less wealthy and more difficult to manage, the comparison is not in favour of Howrah. Of all the large municipalities in Bengal which I have inspected, and I have inspected nearly all of them, Howrah is without exception the dirtiest, most backward, and badly-managed Municipality I have seen, and the Municipal Commissioners cannot be congratulated on the manner in which they have performed the duties of their trust. Existing defects and the most urgent and necessary improvements have been left untouched, while hundreds of rupees have been injudiciously spent on works, especially drainage works constructed on a wrong principle. It is difficult to account for such a state of things, as the Municipal Commissioners, many of whom I have the pleasure of knowing personally, are an exceedingly intelligent body of men who seem to have the affairs of the Municipality at heart. I expect the fact of the matter is that most of the Commissioners are business men who have not the time to go about the town and see for themselves what has been, is being, and ought to be done, which is the only way a municipality can be efficiently governed. If this surmise is correct, then the sooner the municipality is reconstituted and composed of men who have sufficient leisure to devote to the affairs of the Municipality, the better it will be for the town.

5. The greatest and most pressing wants of Howrah are—1st, a good drainage system; 2ndly, a filtered water-supply; and 3rdly, an improvement of bustees.

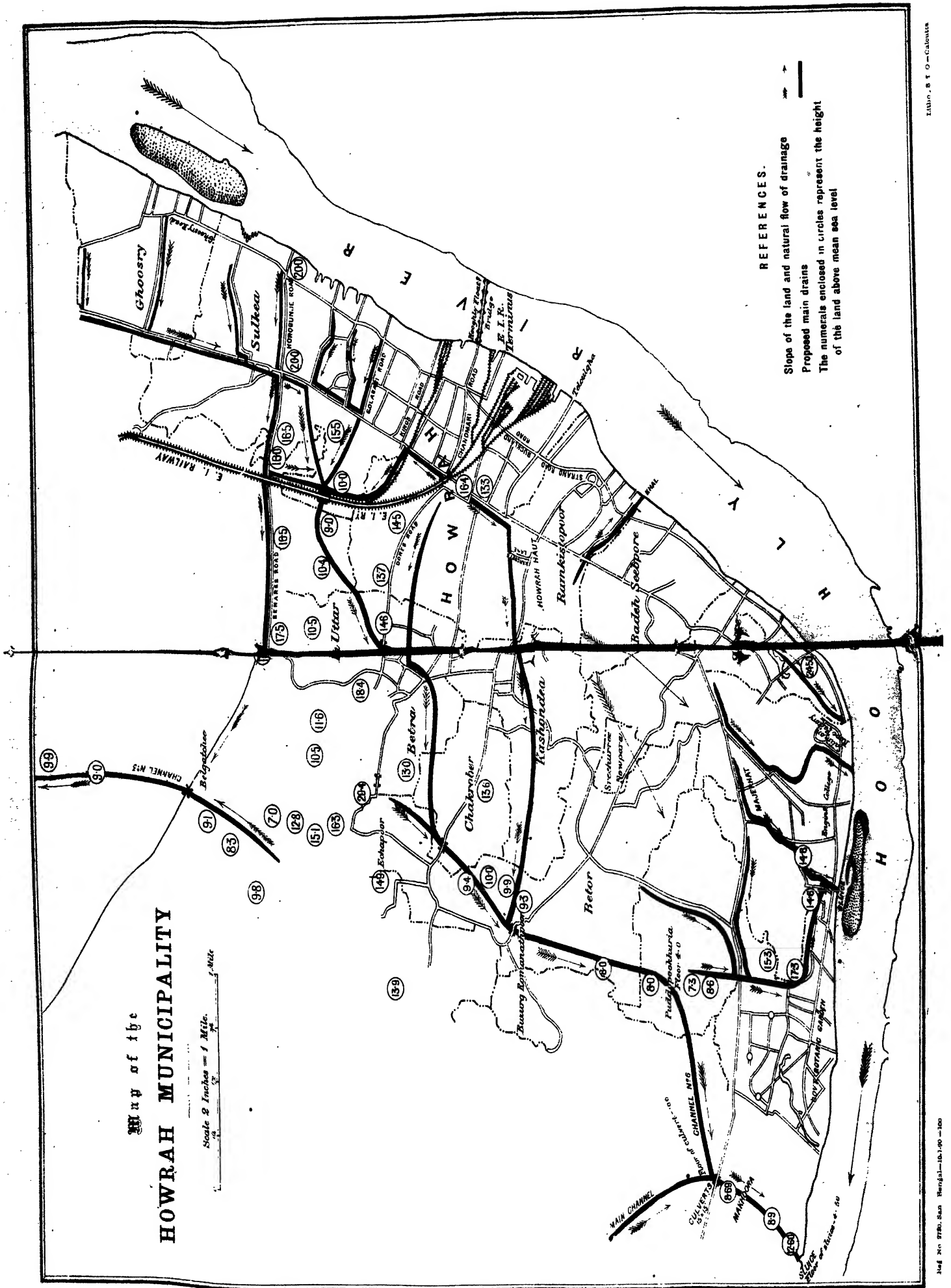
DRAINAGE.

6. The drainage of Howrah is admitted on all sides to be extremely defective, and all are agreed that a good drainage system is the most urgent requirement of the town, but on account of the monetary and physical difficulties which are said to exist, no such scheme has yet been attempted. I have therefore gone into the subject very thoroughly, and given it my most careful consideration, and the result of my labour has convinced me, as I trust it will convince the Municipal Commissioners, that it is quite practicable to introduce an efficient drainage system at a comparatively small cost. Like most of the towns and villages in Bengal, Howrah is situated on comparatively high land on the banks of the river, the slope of the land and the natural flow of the drainage being away from the river. In Howrah the land is lower in the west of the Municipality than in the east, and in the south than in the north, consequently the natural flow of the drainage is in a south-west direction with a natural outfall in the south-west corner of the Municipality as shown in the accompanying map which I have

Map of the **HOWRAH MUNICIPALITY**

Scale 2 Inches = 1 Mile.

REFERENCES.
Slopes of the land and natural flow of drainage
Proposed main drains
The numerals enclosed in circles represent the height
of the land above mean sea level

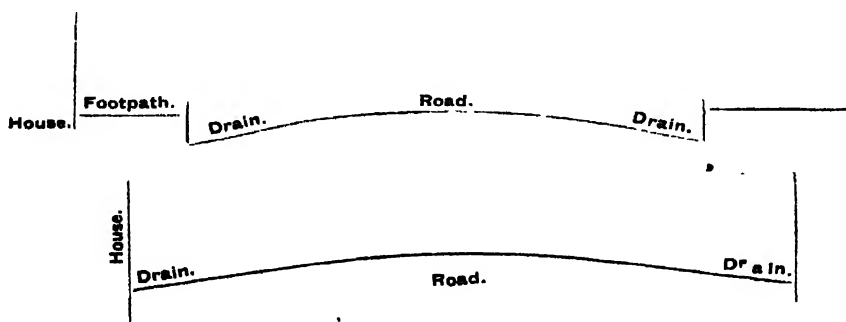


prepared with great care and after much trouble. I have myself walked over the whole of the Municipality both during and after the late heavy rains, and have carefully watched the flow of the water which is in the direction of the arrow marks shown in the map. The correctness of this statement is borne out by the levels subsequently supplied to me by Mr. Thompson, the Executive Engineer in charge of the Northern Drainage and Embankment Division. The levels are shown in numerals in the map. At present the drainage of Howrah where it exists at all, for in the greater portion of the Municipality there is no drainage whatever, is so constructed that much of it finds its way into the river Hooghly, and thus pollutes to a considerable extent the water in the vicinity of the shipping. Great efforts are now being made to keep the water of the Hooghly in the northern portion of the Port as pure as possible and it is therefore, to say the least of it, not fair to the Port Authorities to have their efforts, in this direction frustrated by the discharge of the drainage of Howrah into the Port, especially as there is really no necessity for it, the natural flow of the drainage being inland, in the opposite direction to the river. I am aware that a large sum of money has been spent in draining portions of the town, especially in the vicinity of the East Indian Railway line, into the river, and that all this money will have been wasted if the drainage is now diverted in another direction. But I am afraid there is no help for it, and that the sacrifice must now be made in the interests of the Port. It is very unfortunate that this was not taken into consideration when the scheme was devised. In fact I cannot understand how such an obviously wrong project came to be carried out. The direction in which it is now proposed to drain the town of Howrah is shown by thick black lines in the accompanying map. It will be seen that the proposed main drains follow the natural slope of the country, that they are not at variance with the levels of the land, and that they find outlets into the river at points below the usual moorings of vessels, the two principal drainage channels finding a natural and easy outlet through the Puddopooker bheel, and the Public Works sluice west of the Government Botanic Garden considerably below the shipping. When the proposed main drains are constructed, it will be an easy and comparatively inexpensive matter to connect the small drains of the town with them. But main drains should be the Municipality's first consideration. A portion of the proposed main drains is already in existence, so that the scheme suggested will not be entirely a new one, and I understand it can be carried out at a comparatively small cost. Something will also have to be paid to the Public Works Department for the use of their sluice gate either in a lump-sum or in the shape of an annual rent. Before leaving the subject of drainage, I wish to say a few words with regard to the roadside drains of Howrah, which are about the most objectionable drains of the kind I have yet seen. Many of them are nothing better than elongated cess pools of cookroom refuse, shop sweepings and other objectionable matter in which worms are bred, and from which the most sickening and overpowering smells emanate. The drains are much too deep to be effectually cleaned. Hence the result described above. Most roadside drains in towns should be shallow and shaped thus :—

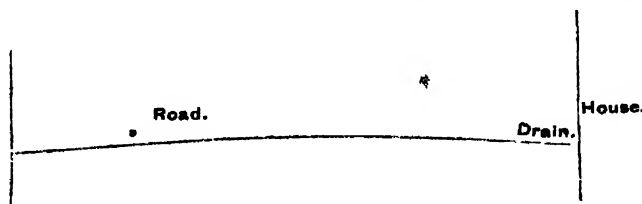


Such drains are the least expensive to construct, and the easiest to keep clean. Instead of being constructed on both sides of every road as at present, they should in future be made as follows :—

A drain on each side of every road from 20 to 40 feet broad (with or without footpaths) thus :—



A drain on one side only of every road or lane less than 20 feet broad thus :—



WATER-SUPPLY.

The need of a filtered water-supply for Howrah is a question about which there is no doubt whatever, the Municipal Commissioners and the people being all agreed as to the necessity for such a scheme; but owing to the difficulty of ways and means, the question has not yet assumed a practical form and is still under consideration. It has, however, at last been decided to raise a loan of ten lakhs for the purpose, and now the only question is as to the most desirable source from which to obtain the water. There are four schemes under consideration. The first is to pump up the water, in the same way as the Calcutta Municipality do, from a place called Rishra some distance south of Fulta, the source of the Calcutta water-supply. The second scheme is to obtain and carry the water from the Sursuttee Nadi, which is a branch of the river Damuda, about seven miles west of the Municipality. The third scheme is to pump up the water from a place called Ischapur on the banks of the Hooghly north of Goosey, a distance of about three miles from the Hooghly pontoon bridge, and the fourth and last scheme is to obtain the water from the Calcutta water-works system, the connection being made with a main pipe along the Strand Road at a point close to the pontoon bridge. The first scheme, which is undoubtedly the best, is impracticable for want of means, the cost being estimated at about 20 lakhs, which is double the amount the Municipality are prepared to raise. The second scheme is undesirable on account of the quality of the water in the Sursuttee being inferior to that of the Hooghly, and the certainty that the demand hereafter from that source will be unequal to the supply. The third scheme is objectionable, because the water at Ischapur is not so pure as it is further up the river, and is even brackish at times. The fourth scheme seems to be the most desirable one, and I understand from Mr. Kimber, the Engineer of the Calcutta Corporation, that it is quite practicable, and will not cost more than nine lakhs of rupees. Of course the consent of the Calcutta Corporation will have to be obtained before such a scheme is carried out or even disallowed, but I believe that there will be no difficulty on this point. I have taken the trouble to go into this scheme very carefully with Mr. Kimber, and am convinced that it is the most desirable and practical. The following is an extract from Mr. Kimber's official communication to me on the subject:—

"The supply required, as I understand, is 10 gallons per head per day of filtered water for a population of 70,000 or 70,000 gallons per day.

Our present works with some extensions could bring down the extra quantity required for Howrah from our head supply station at Fulta to the first covered reservoir at Tallah. So far the supply comes down equally during each day of 24 hours. I estimate that the contribution from Howrah on this account would be a capital sum of about Rs 2,93,645. Of course the amount would ultimately have to be determined by the City Commissioners, but this is the amount I would recommend to them for their favourable consideration.

At and from Tallah arrangements must be made specially for Howrah, so that the 700,000 gallons would be delivered and distributed within 12 hours of daylight. The special plant and block so required would comprise two pumping engines (one for spare) with boilers, and the buildings to contain them, and a main to force the supply (in the first instance) down to the latitude of the Hooghly floating bridge. The engines would be about 90 effective HP each, and the main would be 15 inches diameter. I roughly estimate this plant and block at Rs. 2,05,000.

For a total sum therefore of Rs. 4,98,645 the supply could be delivered at the point named within 12 hours. As the rate of consumption at certain hours would be double the average rate of supply, the machinery is calculated to meet this requirement, which would amount to 1.66 gallons per hour per head of population, all taking their supply simultaneously. This is scarcely half the average rate of Calcutta. If a greater rate of supply is required, of course the estimate from Tallah downwards must be increased.

As to crossing the Hooghly, I see no considerable difficulty in taking such a moderate sized main across by the floating bridge.

The City Commissioners have on more than one occasion formally allowed me to design and carry such water-works for outside authorities, viz., the Barrackpore water-works on account of the Government of India, and quite recently, the branch works for the whole of the eastern suburbs of Calcutta amalgamated with the city under the new Municipal Act, and I have also been allowed to accept extra remuneration for these works. With the consent of the City Commissioners, I shall therefore be very happy to devise a complete scheme for Howrah and supervise its execution if called upon to do so on the usual fee of 5 per cent on actual cost, and I would in such case, as I did with the amalgamated area and with the consent of the City Commissioners, associate with myself Mr. R. A. Oldham, M. Inst. C.E., whom I expect to arrive very shortly in Calcutta. The scheme I would devise would be a complete one including the distribution in Howrah, and I think might well be done within the limit of nine lakhs of rupees.

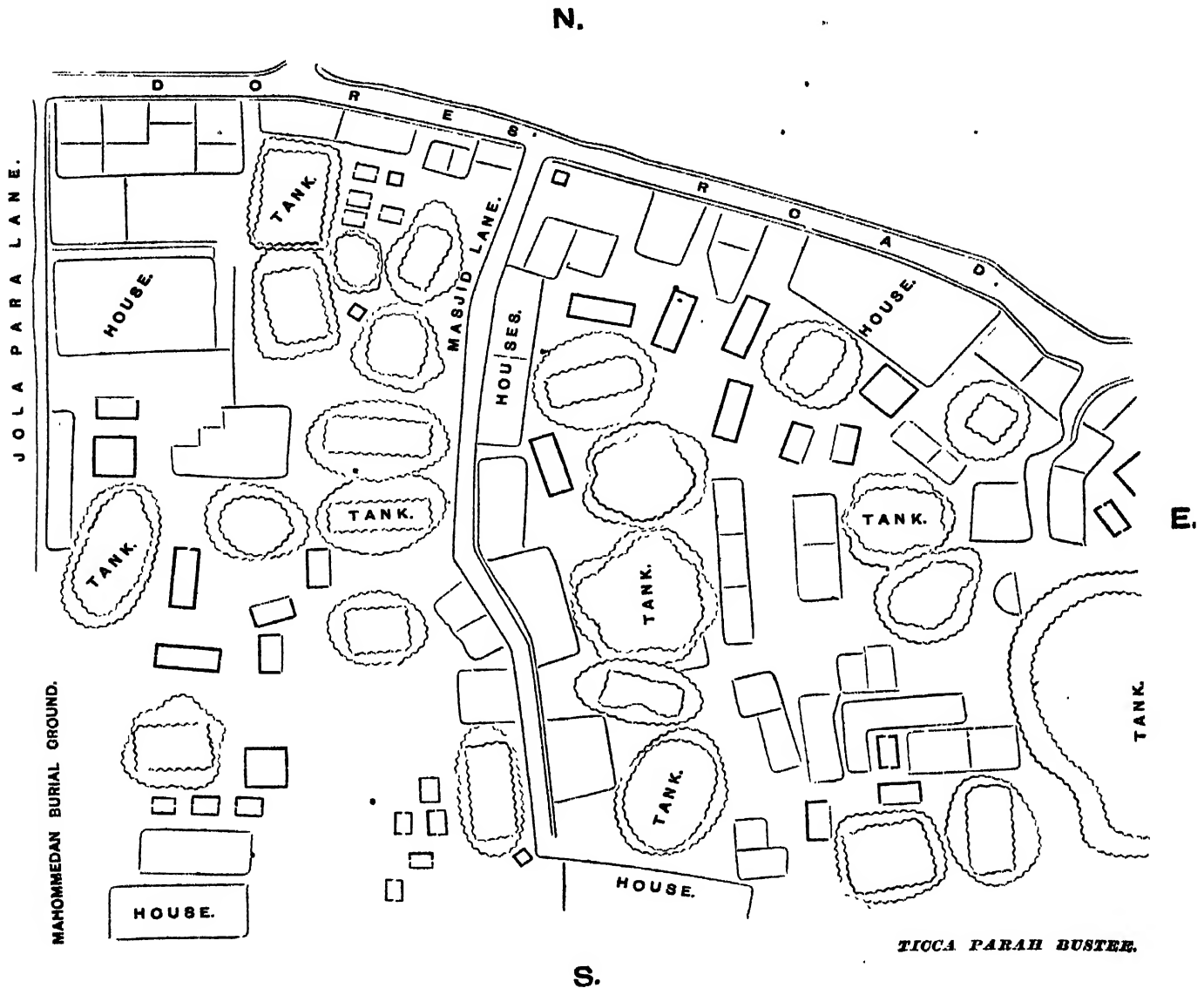
As to the time within which the project might be carried out, I think it might be done within eighteen months, if the whole matter after sanction to the estimates were placed unreservedly in my hands, as was the case in the two instances above mentioned. The funds in covering amounts being lodged as required in the Calcutta Municipal Treasury, and cheques drawn upon it by the Vice-Chairman."

It will thus be seen that the estimated cost of the proposed filtered water-supply scheme for Howrah is one lakh less than the amount the Municipality is prepared to raise. A portion of this balance I propose should be utilized in carrying out the proposed drainage scheme.

OVERCROWDING OF BUSTEES.

8. The greater portion of the Howrah Municipality consists of rural villages, and some of the bustees situated in the town itself are fearfully overcrowded and in a dangerously insanitary condition. The following is a rough sketch of one of the worst bustees in the

Municipality situated in the vicinity of Dore's Road in the angle formed by the East Indian Railway line on the north and the Grand Trunk Road on the east :—



Dore's Road is thickly fringed on both sides by numerous shops; from which it is separated by deep drains, the levels of which are so defective that the semi-fluid they contain (cookroom refuse, shop sweeping and other impurities) cannot easily pass off but remains in the drains seething and fermenting until it is ultimately partially absorbed into the ground and partially evaporated into the surrounding air to the great detriment of the health of the people living in the locality. I have never seen anything so disgustingly filthy in the whole course of my experience as the condition of these drains and the interior of the bustee bordering on Dore's Road. I had actually to wade through filth ankle deep to get into the heart of this bustee, and when I got there I found myself in the midst of an atmosphere which nearly overpowered me. There are some kutchas latrines in this bustee which it was quite certain had not been cleaned for days, for I noticed that the pans of night-soil were overflowing and mingling with the mud of the water saturated lanes and passages on the sides of the latrines. The above is by no means an overdrawn picture, but a faithful description of what I actually saw and experienced when I visited this bustee. Such a state of things does not reflect credit on the Municipality, and the sooner the drainage and cleanliness generally of the locality in question is attended to, the better it will be for the health of the people inhabiting it.

BURIAL-GROUNDS AND BURNING GHATS.

9. The European cemetery, which is under the care and supervision of the Reverend A. N. Rolfe, is kept in excellent condition, and reflects credit on that gentleman's management. Close to this cemetery a large plot of land, about 25 bighas in extent, has

recently been acquired for a Mahomedan burial-ground. It is desirable that the care of this ground should be vested in a Sub-Committee consisting of the Chairman of the Municipality, the Civil Surgeon, and one or two Mahomedan Municipal Commissioners.

There are three burning ghâts in Howrah, and all of them, I am glad to say, are kept in a satisfactory condition.

TRENCHING GROUNDS AND PUBLIC LATRINES.

10. The night-soil of Howrah is at present buried in seven trenching grounds situated in various parts of the Municipality; but as these grounds are nearly full, a very large plot of land, about 160 bighas in extent, has been recently acquired at a place called Bamungachia north of the Municipality, in which it is proposed to trench the night-soil of the town in future. As the new locality is too far for carts to travel to and fro daily, a steam tramway has been constructed for the purpose at a cost of Rs. 75,000, and will shortly be brought into use. The Commissioners should see that the night-soil is properly trenched in the new ground in the manner suggested in this office Circular No. 148, dated 16th November 1888, and that the ground is afterwards planted over. Nine new public latrines have lately been erected, but I am afraid they are not sufficiently ventilated as there is no space between the roof and the wall. This defect might easily be remedied by raising the roof slightly. Another mistake has been the construction of male and female latrines in the same place. The people are very much averse to the latrines for the two sexes being together. They should therefore be quite distinct and as far apart as will be convenient for cleaning purposes, and they should also be approached by separate paths.

In conclusion, my acknowledgments are due to the Municipal Commissioners, especially to Mr. Currie, the Chairman; Babu Guru Charan Rai Chaudri, the Vice-Chairman; Mr. Mitchell, the Secretary; and Mr. Henwood, the Conservancy Inspector, for the valuable assistance they afforded me during the course of my enquiry. Also to Mr. Donnithorne, the late Secretary of the Municipality, who helped considerably with his advice and knowledge of Howrah.

W. H. GREGG, M.B.,

Sanitary Commissioner, for Bengal.

The 19th December 1889.

MEMORANDUM ON THE DRAINAGE, WATER-SUPPLY AND CONSERVANCY ARRANGEMENTS OF THE MUNICIPALITIES OF NYHATTY, NORTH BARRACKPORE, SOUTH BARRACKPORE, BARANAGORE, COSSIPORE-CHITPORE, MANICKTOLLAH, SOUTH DUM-DUM, NORTH DUM-DUM, AND BARASET.

In the circular issued from this office on the 21st October last to all municipalities in the districts of the 24-Pergunnahs, Hooghly, and Howrah, it was stated that, with the view of promoting sanitary reforms in Bengal by helping and encouraging the practical application of sanitary principles to towns and villages, the Government of India had approved the formation of a Sanitary Board whose chief duty it would be to assist and guide municipalities on important matters connected with sanitation; and it was added that one of the first duties of the Board would be to focus its attention on drainage and water-supply—the two measures best calculated to render Bengal towns more healthy and attractive than they are at present. With the above objects in view, and pending the formal constitution of the Sanitary Board, I commenced a thorough and systematic inspection of the municipalities of Nyhatty, North Barrackpore, South Barrackpore, Baranagore, Cossipore-Chitpore, Manicktollah, South Dum-Dum, North Dum-Dum, and Baraset, situated in the district of the 24-Pergunnahs, on the 3rd November, and continued it off and on for 20 days altogether. As no attempt has hitherto been made to inspect municipalities in groups, I had no precedent to guide me, and had to strike out a new line for myself, which made the inspection all the more difficult. I was, however, helped to a considerable extent by the Municipal Commissioners of the several municipalities, who, I am glad to state, co-operated heartily with me by accompanying me in some instances and giving me the benefit of their local experience and professional advice in others. Notwithstanding this help, the enquiry was still an extremely difficult one owing to the large area of the ground to be inspected, and the difficulty, in the absence, in most cases, of maps, surveys and levels, of obtaining correct information.

DRAINAGE.

The map accompanying this memorandum, which has been prepared with great care, gives a correct idea of the situation of the municipalities under consideration, which, it will be observed, lie along the east or left bank of the river Hooghly, with the exception of the municipalities of Manicktollah and Baraset which lie inland. The yellow lines in the map indicate the boundaries of the municipalities, and the thick black lines the general direction of the proposed main drainage channels, which may have to be slightly modified in places when the scheme comes to be carried out. The first thing for the Municipal Commissioners to do is to obtain levels along the proposed main drains and to reduce them all to one common standard, viz., mean sea level. The distance from north to south of the land occupied by these municipalities, except Baraset, is about 30 miles, and the breadth varies from 1 to 2 miles. The whole of this tract of country is exceedingly flat with a slope of only 23 feet, from north to south and of about 10 feet from the river bank on the west to the lowlying paddy fields on the east; consequently the natural flow of the drainage is in two directions, viz., from north to south and also from west to east.

It is popularly supposed that the drainage of all the municipalities mentioned in this memorandum is closely connected, but this is not the case, the drainage of Nyhatty and Baraset being quite distinct from, and independent of, that of the other municipalities. These two municipalities will therefore be considered separately from the others.

Nyhatty—No radical change is necessary in the drainage of the Nyhatty Municipality which finds its way naturally through numerous creeks and khalls in the municipality either into the river Hooghly on the west, or into the paddy fields on the east, and does not flow into, or in any way affect, the drainage of other municipalities. But although the existing main drainage channels of the Nyhatty Municipality are well situated and adapted for the purpose for which they are intended, many of them, through the neglect of years, have become silted and otherwise obstructed, so that at present they do not by any means act freely. When an uninterrupted flow of water in these channels is secured—and this should be done as soon as possible by removing the silt and other obstructions—the drainage of Nyhatty will be satisfactory. The drainage channels recently constructed in this municipality answer the purpose for which they are intended.

Baraset.—The natural flow of the drainage of this municipality is in a south-easterly direction principally through the Sonthee Nadi into the Kocho Beel shown in the map. There are main drains running through the municipality, which receive almost the entire drainage of the southern and western portions of the town and carry it in a southerly direction into a beel, called the Kootoorsuhee Beel, from which it passes in a south-easterly direction over low-lying paddy fields till it finds its way ultimately into the Kocho Beel, some five or six miles south of Baraset ward. The drainage of the western portion of Baraset would probably be much improved and brought under the control of the municipality (which it is not at present), if it were diverted in an easterly direction along the Ghola or the Takurpukur road into the Sonthee Nadi. In the absence, however, of levels which have not yet been taken, it is impossible to advise definitely on this point. The drainage of the northern

and eastern portions of Baraset at present finds its way into the Sonthee Nadi. If the natural flow of water in this nadi was uninterrupted, the drainage of Baraset, after the proposed improvements, would be all that could be desired, but at present it is very much and very seriously obstructed by numerous fishing weirs, or *kumars* as they are called in the vernacular. These weirs, which are constructed in the bed of the river at intervals of 100 yards more or less, have so seriously impeded the flow of the water as to make it stagnant in some places. There is no serious objection to the erection of fishing weirs out of, or on either side of the main stream, but in the interests of the health of the people inhabiting the municipality, the construction of weirs in the stream itself must be absolutely prohibited, by law if necessary. Steps should be taken at once by the Municipal Commissioners to cause the removal of the existing weirs from the main stream so as to obtain an unobstructed channel of the least 20 feet wide. Until this is done, and any uninterrupted flow of water obtained, there will be no appreciable improvement in the health of Baraset, which ought to be a very healthy place, but cannot possibly be so as long as the drainage is interrupted by fishing weirs in the Sonthee Nadi. The municipality should bear the cost of removing the weirs, not only in that portion of the nadi which runs through the town, but also in the portion between the town and the Kocho Beel.

North Barrackpore, South Barrackpore, Baranagore, Cossipore-Chitpore, North Dum-Dum, South Dum-Dum, and Manicktollah.—The drainage of these municipalities is very closely connected, though that of North Barrackpore and the northern portion of South Barrackpore, including the cantonment, the civil station and the park, may be separated from the drainage of the southern portion of South Barrackpore and other municipalities named above. I propose, therefore, to deal with the two systems separately. In North Barrackpore and the northern portion of South Barrackpore there is little need for interference with the existing arrangements, as the drainage, where it does not flow directly into the river, finds its way through the main drains, marked by thick black lines in the map, in the direction of the arrow marks into the Dunka Khall in South Barrackpore, and thence into the river. All that is necessary in this area is to clean up and improve the levels of the main drains, which at present are very defective in some places. It will also be necessary to make a new drain to the east of the Pulta Water-works, and to connect it with the main drain running to the north-west of the Barrackpore Cantonment. A new drain should also be made to connect the drainage in the south-east corner of North Barrackpore with the Dunka Khall in the direction shown in the map. The drainage in the vicinity of the Samnagar Jute and Cotton Mills also requires attention, as at present it is very defective.

The drainage of the southern portion of South Barrackpore and the remaining municipalities except Manicktollah, which will be considered separately, is the most difficult to deal with. At present almost the whole of the drainage of this tract accumulates in the Cossipore-Chitpore and North and South Dum-Dum Municipalities to the detriment of the health of the people living in those towns. The Bagjulla Khall shown in the map and its branches are the natural main drainage channels of this locality, and flow through the salt-water marshes to the sea. But the khall north of the Jessore Road is considerably silted up in places, and in its present condition acts more as an obstruction than as a help to the drainage of the municipalities which it serves. I have travelled down the greater portion of this khall in a "dug-out," and seen for myself how seriously it is obstructed and how inefficiently it acts at present. The khall is admirably situated to receive the drainage of the surrounding country which naturally flows in its direction, and it should therefore at any cost be kept in good working order. It should not only be re-excavated in the places where it has become silted up, but a sluice with sufficient waterway should be constructed in the part where it cuts through the bund, which is at north of the salt-water marshes. The proposed sluice would prevent the tidal water from the salt marshes backing up, as it does at present, the drainage of the municipalities served by the Bagjulla Khall, especially of the South Dum-Dum municipal area which includes a European Cantonment. The cost of re-excavating the Bagjulla Khall and constructing a sluice in it must of course be met, in proportion to the interests involved, by all the municipalities benefited, viz., by the South Barrackpore, Baranagore, Cossipore-Chitpore, North Dum-Dum and South Dum-Dum Municipalities, and by the Dum-Dum Cantonment. I feel sure that all these municipalities will gladly contribute towards the cost of a scheme which is calculated to render their towns more healthy and attractive than they are at present. The Dantia and Khurda Khalls should also be sluiced. The latter is already sluiced, but the waterway provided in the sluice is not sufficient: it should be increased. In connection with the drainage of these municipalities it should be mentioned that the syphons passing under the main pipes of the Calcutta water-works do not, I understand, work properly owing to their becoming silted up occasionally and at such times obstructing the free flow of drainage through them. These syphons should never be allowed to become silted up even temporarily.

The drainage of the Manicktollah Municipality is all that remains to be considered. At present it is very much impeded by the tides in the salt-water marshes preventing the free passage of water from the town into the tidal khall which lies to the east of the Calcutta Circular Canal. I have inspected the locality in question in a "dug-out," and am of opinion that to remedy this evil a sluice should be constructed about a quarter of a mile from the east end of Ballyaghata main road in the position shown in the map; and as this arrangement will also benefit the drainage of the Cossipore-Chitpore and South Dum-Dum Municipalities, which have their natural outfalls through this khall, they should contribute in proportion towards the cost of constructing the sluice. It is very desirable that the

construction of this sluice, as well as of that recommended for the Bagjulla Khall, should be entrusted to a competent engineer, as they are very important works, involving technical knowledge and engineering skill, and the least mistake in their construction will defeat the object for which they are recommended.

The question of main drains having been considered, the next question is with regard to the construction of small or minor drains in connection with the main drains. As far as possible, drains already in existence should be utilized, their levels being attended to and their width and depth increased, if necessary. It will, however, be necessary to construct a few new drains; but as this is a matter which does not necessarily require any special engineering skill, it might easily be undertaken and carried out under the direct supervision of the Municipal Commissioners at a comparatively small cost, the selection of sites and other details connected with the drains being left to the judgment, tact and ability of the Chairman and the Municipal Commissioners. It is not absolutely necessary, except in the case of low-lying rice fields, that the drains should be perfectly straight, so that if in any case there is any difficulty in inducing persons through whose land it is considered desirable to run the drain to give up the necessary land for the purpose, a diversion might be made which would be much cheaper than acquiring the straight piece of land under the law. I cannot, however, think that land-owners will make any serious objection to the construction of a drain through their land if the importance of the work is explained to them. In making drains, the Commissioners should be careful to see that *sufficient* waterway is provided in the culverts. One of the greatest mistakes hitherto made in drain construction in this country is the insufficiency of waterway provided in culverts. I cannot therefore impress this matter too strongly on the attention of all Municipal Commissioners.

WATER-SUPPLY.

In semi rural municipalities such as all those under consideration, except Cossipore-Chitpore and Manicktollah, there is no need at present for a filtered water-supply, tanks specially reserved for drinking purposes only being in most cases all that is necessary. As to the great importance of keeping drinking water sources as pure and as free from contaminations as possible so much has recently been written both in the annual report of the Sanitary Department for 1888 and in a special circular issued by this office, that I need not go over the same ground again in this memorandum, but simply invite the attention of the Municipal Commissioners to the correspondence referred to, and ask them to do all in their power to carry out the advice and instructions therein given. In some places there is great need for improvement in this respect; for example, in the northern portion of the Nyhatty Municipality, viz., in Golabari, the water at present used by the people for drinking purposes is that of the Bhuger Khall, which being really drainage water is most unwholesome. The people unfortunately have no alternative but to use this water, as the river has as it were been shut out from them by the formation of a large chur which has diverted the course of the Bhuger Khall in a southerly direction past Golabari. If this khall were bridged, which might be done very cheaply and easily, it would enable the people to cross over to the chur and walk across it and draw pure drinking water from the river—a boon which would be much appreciated by them. This is only a single instance of the many cases that exist of impure water being consumed by the people, and the simple and inexpensive means by which it might be improved. The Municipal Commissioners will probably know of numerous other instances, and will, I have no doubt, deal with them as it seems best to them. There is already an instance in the Nyhatty Municipality of a simple and inexpensive means by which the existing water-supply has been improved in the case of Kanchrapara, where Mr. Rendell, the Locomotive Superintendent of the Eastern Bengal State Railway, has provided a cheap filtered water-supply for the 2,000 railway employes resident in that locality. The source, however, from which the water is obtained, viz., the Bhugar Khall, is contaminated, so that even though the water is partially filtered before being consumed it is more or less impure. I would invite the attention of the Railway authorities to a machine known as Anderson's revolving purifier lately introduced into this country by Messrs. Burn and Company, which is cheap and particularly well adapted for the purpose for which it has been invented. In the Cossipore-Chitpore and Manicktollah Municipalities, but specially in the former, which is densely populated, there is urgent need for a filtered water-supply, and in Cossipore-Chitpore the feeling not only of the Municipal Commissioners, but also of the rate-payers, is in favour of such a scheme which should be introduced as soon as possible. With the consent of the Calcutta Corporation, which I have no doubt could be obtained, the water might be supplied from the Calcutta system, the Cossipore-Chitpore Municipality paying for the extra machinery, &c., that may be required at Pulta, and any reasonable sum of money which the Calcutta Corporation may demand, either in a lump sum or as an annual payment for the use of the main pipes from Pulta to Cossipore-Chitpore; or it may be possible to amalgamate the Cossipore-Chitpore scheme with that proposed for Howrah; both these Municipalities paying the Calcutta Corporation in proportion for the amount of filtered water supplied to them from the Calcutta system.

The Manicktollah Municipality is also in need of a filtered water-supply, but as the municipality is much too poor to pay for the cost of such a scheme, the matter may be held in abeyance for the present, tanks being specially reserved for drinking purposes. The Municipal Commissioners must be very careful to see that the tanks are properly reserved, for the municipality is very thickly populated, and the danger of contamination of the water is thus very great.

CONSERVANCY.

Except in the Cossipore-Chitpore and Manicktollah Municipalities and the portions of the other municipalities where it is already in force, there is no necessity at present to introduce the Latrine Act throughout the municipalities dealt with in this report which, for the most part, are semi-rural. In crowded localities, however, the Act should be introduced and strictly enforced, the night-soil being trenched in suitable fields, in the manner already suggested to all municipalities in this office circular No. 148, dated the 16th November 1888. As regards Cossipore-Chitpore and Manicktollah, however, there is not an acre of available land for the trenching of the night-soil of those municipalities, which, I believe; has hitherto been emptied into the Calcutta night-soil sewers; but the Calcutta Municipality have, I understand, intimated their intention of prohibiting this practice in future. If this is true, it will place the abovenamed municipalities who have nowhere else to dispose of their night-soil in a serious predicament, and probably result in an epidemic of sickness, which there is very little doubt would react upon Calcutta. It is therefore in the interests of Calcutta to allow the night-soil of the Cossipore-Chitpore and Manicktollah Municipalities to be disposed of as hitherto in the Calcutta sewers, and I hope the privilege will not be withdrawn.

: CONCLUSION.

In conclusion my thanks are due to Mr. A. Smith, Commissioner of the Presidency Division, for the valuable hints and suggestions he was kind enough to give me with regard to the present enquiry, to Colonel Boughey, Manager of the Eastern Bengal State Railway, for allowing me access to the railway office records for the purpose of ascertaining levels, &c., to Mr. Nicholson, Superintendent of Way and Works, Eastern Bengal State Railway, for assisting me in working out the levels and the position of culverts, &c., to Babu Radhica Prosad Mukerjee, District Engineer of the 24-Pergunnahs, for his help and advice in engineering matters connected with the localities dealt with in this report of which he has had a long experience, and to the Chairmen and Vice-Chairmen of the several municipalities inspected for their hearty co-operation with me in the course of my enquiry.

W. H. GREGG, M.B.,

Sanitary Commissioner for Bengal.

The 21st January 1890

APPENDIX No. V.

**STATEMENT SHOWING THE SANITARY CONDITION AND THE
MORTALITY FROM SMALL-POX, FEVER, CHOLERA, AND
BOWEL-COMPLAINTS OF SOME OF THE VILLAGES IN
BENGAL, WHICH FOR WANT OF THE NECESSARY
INFORMATION WERE NOT DESCRIBED IN APPENDIX IV
ATTACHED TO LAST YEAR'S REPORT.**

Statement showing the ratios of Deaths from Small-pox, Fever, Cholera, and Borel-complaints in each Registering Circle in the Bengal Province, and the sanitary condition of the Villages in the Circles during the year 1889.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—	
			Small-pox.	Fever.	Cholera.	Borel-complaints.	Drainage.	Water-supply.
24-Pergunnahs	Debipur—Rural ..	48,455	....	8.16	1.70	.45	Is on the whole defective. A thal dischargees part of the surface water into the river Hugli. A narrow fair-weather road and the metalled Futa-Birai road pass through some of the villages.	Is obtained from tanks, many of which are shallow and dry up in summer.
	Rankipur—Rural	107,275	....	9.91	.46	.45	The natural drainage of the villages in this thana is defective.	Drinking water is taken from tanks, some of which are in good condition.
	Kulpi—Rural ..	9,319	.01	10.30	1.32	.27	The natural drainage of the villages in this thana is to some extent free. There are many khals which carry off the rain water.	Drinking water is obtained from tanks.
Dinapore ..	Rasulbari—Rural ..	81,877	....	23.22	.47	....	The whole of the tract is low-lying and subject to inundation, and is much intersected by rivulets and chains of hills.	Is obtained from rivers and jhils, and in the inland tracts from wells and tanks.
Chittagong ..	Satkanya—Rural ..	147,515	....	9.92	.70	.13	The villages in this thana are mostly on the same level with the surrounding fields, and are intersected by the small branches of the river Doloo, which rise in the hills on the south of the thana and fall into the river Sungoo. During the rains these villages are liable to be flooded on the south, east and west. There is not a single good road, but there are a large number of narrow tortuous village paths running along rice-fields and waste lands which mostly remain under water during the rainy season.	Is obtained for the most part from tanks, except in a few of the villages, the people of which draw their water-supply from rivers. Although there are a large number of tanks in every village, very few of them are kept clean. Most of the tanks have raised embankments which are planted all round with thick rows of bamboo and other trees, the leaves from which fall into the water and decompose there, rendering it unfit for drinking.
	Chakarua—Rural ..	38,883	....	15.50	....	.02	The villages are generally situated on a rather high level. They are intersected by a large number of big rivers and their branches, and are surrounded all along the north and east by a range of hills and jungles. Some of the villages are liable to be flooded during heavy rains.	Is mainly obtained from rivers, the beds of which being sandy, the water is clean. There are also several good tanks which are freely used by the people.

The dwellings consist for the most part of thatched houses with walls of loose bamboo and reed mats, and are surrounded on all sides by plantain, betel-nut and other trees which interfere with free ventilation. They are built in groups, each group being separated from the other by the intervention of rice-fields. The court-yards of houses are spacious, but they are kept very unclean. The cattle-sheds are built close to dwelling-houses. There is no conservancy arrangement. The sides of the village-paths and tanks, and the banks of the river Doloo and the waste lands, are used by the people as public latrines. Dead cattle are thrown into waste lands as well as on the banks of rivers. Cremation is carried on the banks of rivers and khals, and burials are performed in the compounds of musajids, on the sides of tanks, and sometimes on the foot of neighbouring hills.

The dwellings consist of ill-ventilated, thatched huts which stand on well-raised earthen floors. Their court-yards, though spacious, are very unclean, all sorts of household refuse, including cowdung, being collected in them. The cattle-sheds are built close to dwellings, and are often very dirty. Conservancy arrangements are not made. The dead cattle are thrown into nearby and waste lands, and sometimes into the river. The arrangements regarding the disposal of the dead are similar to those in these districts described above.

No conservancy arrangements exist. Defecation is carried on promiscuously, and refuse and cowdung are allowed to lie about in heaps in front of houses.

Conservancy is conspicuously absent. The burning and burial arrangements are similar to those of Rankipur thana. In some villages burial takes place close to tanks which are resorted to for drinking purposes.

There is no conservancy arrangement. The Hindus cremate their dead either on the silted-up bed of the Adyaganga or on the banks of tanks, and the Mahomedans bury theirs close to their *bars* or on the banks of tanks, the water of which is used for drinking.

No conservancy arrangements exist in any of the villages in this thana. Defecation is carried on in waste lands and fields. The village paths are used by the children as public latrines. The Hindus cremate their dead on the bank of the khali and the Mahomedans bury theirs close to their houses.

Domestic cleansing.

District.	Name of Circle.	RATIO OF DEATHS FROM — PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-com.			
Chittagong ..	Cox's Bazar—Baral ..	62,817	14.75	.....	74	The villages are mostly situated on a higher level. They are in many cases surrounded by hills and jungles, and are liable to be flooded during heavy rains. The highlands which flows through some of the villages receives the drainage of the surrounding country. The main road from Cox's Bazar to the outpost of Bamoo passes through several villages.	Is mainly taken from tanks, most of which are unclean. There are also a few natural springs which supply water to the neighbouring villages.	The same as in thana Chakaria described above, with this exception that the houses are built much more stronger for fear of wild animals.
	Teknaf—Baral ..	80,548	16.65	.....	225	This thana is situated just on the sea shore, and is covered with hills and impenetrable jungles. Drainage is fair in many villages.	Is partly from tanks and partly from hill-streams. The majority of the former are very unclean, and dry up during the hot weather, when the sufferings of the people become very great.	Same as in thana Chakaria described above.
Moulvibazar ..	Sitamarhi—Munici- pality.	6,125	16.97	4.08	424	Is on the whole defective. All the roads except one, are kutcha, and are not provided with proper side-drains. There is a nullah between Kabinazar and Sitamarhi, which drains away the water from the adjoining localities into the river Lachondra. Pits and excavations also receive part of the surface drainage. A sluice gate has been constructed to prevent the town from being flooded by the overflow of the rivers Lachondra and Bhagmutty during heavy rains, but it has done no good.	Is from rivers and wells. The road-side wells are pucca and have raised parapets, but none of them are provided with drains for the passage of spill-water which soaks into the soil and makes the surroundings filthy. There are only three tanks, the water of which is quite unfit for drinking. At the time of the <i>mela</i> (fair) held annually in this town, the people generally use the water of one of these tanks.	The dwelling-houses are mostly mud-walled with thatched or tiled roofs, and are often defective in internal ventilation. Their floors are damp. The conservancy staff is quite inadequate for the whole town, and surface-cleaning is not properly done. There is no public latrine, and the private ones are few in number. The majority of the people generally use themselves in every convenient place. The night-soil from the private latrines is not properly disposed of, but is thrown outside municipal limits. There is no fixed burial-ground, nor burning shed; both burial and cremation are performed side by side on the bank of the river.
Chumpraan ..	Dhaka—Baral ..	233,993	9.33	7.12	0.5	The majority of the villages in this thana are situated on elevated ground, and are surrounded by low-lying paddy-fields. Drainage from them is more or less free, but in places it is much impeded by pits and excavations. Some of the villages which are situated on the banks of the river Sikrahana and other small rivulets are flooded when these streams overflow their banks. There are few kutcha roads which are studded with pits and hollows.	Is obtained from rivulets, tanks, and wells, but chiefly from wells, some of which are provided with raised parapet walls; the majority are not properly protected from inward drainage.	The dwelling-houses consist of ill-ventilated mud-walled huts. The cattle-sheds are built close to them, and the cattle ordure is deposited here and there, and allowed to decompose till removed to the fields for manuring purposes. There is no conservancy arrangement. The people invariably use themselves wherever they find it convenient to do so. Cremation takes place on the banks of the river Sikrahana and on the sides of tanks and rivulets, while burial is performed at a safe distance from the villages.
Moulvibazar ..	Moulvibazar—Baral ..	166,441	10.30	7.32	7.07	Most of the villages in this thana being on the plain, the natural drainage is not free. Pits, excavations and the julus receive the surface drainage. The main drainage channels are the rivers, Kachar, and Dhama. Almost all the roads are kutcha and provided with sufficient waterways.	The wells, which are the chief source of drinking water, are not properly protected, nor are their surroundings kept clean. The indiscriminate dipping of water-pots is very general.	The plinths of the houses are low and the floors are damp. Both domestic and personal cleanliness is neglected. Fluid refuse soaks into the soil, and evaporates, and solid refuse is recklessly thrown about. There are no latrines; the people in general defecate in every convenient place. The cattle ordure are not properly disposed of, and dead bodies are cremated on any waste land. The Mahomedans are buried close to the villages.
	Goringdang—Baral ..	165,063	7.20	7.20	1.70	Many villages in this thana lie on the banks of the river Naranyi, and they are protected from floods by an embankment. The natural drainage, which is chiefly effected by the rivers Dhama and Naranyi, is not free. Pits, excavations and lakes receive part of the surface drainage. All the main roads are kutcha.	Is obtained chiefly from wells. They are neither properly protected, nor are their surroundings kept clean. The spill water stagnates and decomposes around them, and percolates into the wells through the porous soil, and pollutes the water. The indiscriminate dipping of water-pots is general.	The dwellings consist of small huts with thatched roofs, and walls made of <i>foos</i> or mats. Their floors are damp. Cleanliness is neglected by most of the people, and the refuse matters are thrown here and there. The people defecate in any convenient place. The cattle sheds are close to dwellings, and the ordure is deposited here and there, and allowed to decompose till removed for manuring purposes. Both cremation and burial are performed at the outskirts of villages.

Mudhuban--Baral	105,006	'22	10'03	'03	'37	Same as in Dhaka (rural) described above.	Same as in Dhaka (rural) described above.
Bettiah--Baral	340,073	1'01	9'11	'33	'10	There are no properly constructed roads or drains in the villages. The natural drainage is towards the fields, but part of it is received into pits and excavations. In some villages nullahs drain away the surface water. Many villages are subject to inundation from the river Shikrahana.	Is generally obtained from wells. Tank water is used in some places, while the river Shikrahana supplies water to the villages situated on or near its banks.
Hundi and Lowya--Baral	191,917	1'11	18'05	'34	'07	There are no properly constructed roads or drains, the village foot-paths serving the latter purpose. Pits, excavations and surrounding fields receive the surface drainage. Some of the villages are liable to be flooded by the rivers during heavy rains.	Is supplied chiefly from wells, many of which are provided with parapet walls up to the surface level. The chief rivers are Shikrahana, Belore, Pandore and Kortoba, but their water is seldom used for drinking.
Adapur--Baral	138,968	8'09	18'74	'79	'50	The villages being generally situated on high and raised grounds, drainage is to some extent free, and flows towards the surrounding fields. The village foot-paths serve the purposes of roads as well as drains.	Is generally taken from wells, which are neither properly protected nor are their surroundings kept clean.
Begula--Baral	140,400	1'10	21'35	'08	'13	Is defective. Pits, excavations, and surrounding fields receive the surface drainage.	Is obtained chiefly from wells, some of which are not properly protected from inward drainage. The surroundings of most of them are very unclean.
Kesurahi--Baral	177,682	'05	8'32	'12	'07	Most of the villages in this thana are situated on high grounds, and the drainage from them is more or less free. The railway line, however, obstructs to a great extent the drainage of the villages through which it passes. Pits, excavations, and the fields receive the surface drainage. There is no properly constructed road. Some of the villages are subject to inundation from the Shikrahana and Lohna rivers.	Is obtained from wells, many of which are properly protected from inward drainage. There are rivers and rivulets, but their water is not used for drinking purposes.

Champaran...

Basta--Baral	71,156	'11	6'40	10'91	7'47	Most of the villages in this thana being situated on high grounds, the natural drainage is fairly good.	The water-supply is obtained from tanks which have a sufficient supply of good water throughout the year. Khails and wells are scarce. Some villages receive their water-supply from the river Sooburnarekha.
Jolmaore--Baral	153,108	'07	11'57	6'04	7'47	The villages are mostly situated on high grounds, and the drainage from them is fairly good.	Is obtained from tanks which contain good water throughout the year. The water of Sooburnarekha is also used in many villages. Wells are very scarce.

Bihar...

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-com-plaints.				
Bihar	Baliapal—Bareil	'03	11'22	10'40	5'36	88,236	The villages being situated in fairly elevated grounds, the drainage is free. There are no proper roads in any of the villages. Foot-paths and cart tracks are the only thorough-fares.	Sufficient supply of good water is obtained from tanks, khali and streams throughout the year.	The dwelling-houses consist of clean and well-ventilated mud huts, and are built apart from each other. The habits of the people are cleanly. Cowdung and other refuse matters are collected at a distance from the houses. Cowsheds are apart from the dwellings, and are kept perfectly clean. Both cremation and interments are generally carried on outside the village.
Lahardighrah	Ranka or Rankunda—Bareil	.....	13'00	.....	'45	61,360	Same as in thanna Jharla and Nirba described below. There is no road, but village footpaths which are as a rule narrow and generally full of rubbish.	The water-supply is obtained from natural springs, wells and streams, which are more or less subject to pollution. Many of the streams dry up during the hot weather.	The dwelling-houses are of the same description as in thanna Jharla and Nirba. The cattle-sheds are built close to the houses and are very dirty. No conservancy arrangements exist in the villages. The people resort to the adjacent fields for defecation. House-refuse and cowdung are collected in heaps near the houses. Cremation is performed on the banks of streams, while burials take place on waste lands situated not more than 400 yards from the houses.
	Toto—Bareil	.....	15'48	8'31	2'54	88,078	The villages in this thanna are situated on elevated grounds surrounded by mango-trees and low-lying paddy-fields. There are no jungles or hills near the villages. The roads are generally narrow, filthy and drain-less.	The water-supply is obtained from <i>darice</i> and <i>kutcha</i> wells. The supply is sufficient and good.	The dwellings of the people consist of mud-walled huts roofed with tiles or thatches of straw and grass. They are generally erected on low plinths, and are ill-ventilated, but the floors are not damp or unclean. The compounds are, however, often dirty from the accumulation of cattle-dung and house-refuse in them. The cattle-sheds are generally close to the dwellings, and are filthy and badly ventilated. The villagers resort to the adjacent fields for defecation. Dead cattle are thrown on the neighbouring waste lands. Arrangements with regard to cremation and burial are satisfactory.
Munabhou	Chaus—Bareil	'02	12'50	2'25	'31	69,173	The natural drainage is fairly good. Narrow roads chiefly serve the purposes of drains in carrying off the surface water to the fields.	Is chiefly obtained from jora (streams). In dry season, water is received by excavating <i>chawas</i> (small holes) in their beds. There are numerous <i>bandha</i> , the water of which is also used for bathing and cooking purposes.	The dwelling-houses are generally thatched huts with low floors. The internal ventilation of them is not sufficient. They are overcrowded and kept dirty with house-refuse. The cattle are housed in sheds within the compounds. People resort to the surrounding fields and open spaces within the limits for defecation. The Hindus burn their dead by the side of the jora and Dadooda river.
	Jharla—Bareil	.....	14'63	'65	'27	30,854	The villages being mostly situated on an elevated ground, the natural drainage is in great extent free. The roads are kutcha and dirty.	Is generally obtained from tanks that are subject to pollution. The river Damuda supplies water to the villages situated on its banks.	The dwelling-houses, which consist of small, thatched or tiled mud huts, are crowded together and ill-ventilated. Refuse matters are allowed to accumulate near the houses, the interiors of which are not often kept clean. There is no conservancy arrangement, and the people ease themselves at convenient places. Cremation takes place on the banks of the river Damuda and on waste lands. The Mahomedans bury their dead generally outside the villages.
	Nirba—Bareil	'41	16'53	'61	1'00	64,627	Most of the villages in this thanna are situated on high ground, and the drainage from them is good. The Grand Trunk Road runs through some of the villages.	Water-supply is chiefly obtained from wells and tanks which are open to all sorts of contamination. Some of the wells have <i>pucca</i> parapets, but some have <i>pucca</i> drains, and the ground round them is sloppy. The water-supply is also obtained from rivers.	The dwelling-houses are generally built rather close to each other. They are low-plinths, mud-walled huts, with tiled or thatched roofs. Their surroundings are often dirty. The village paths are not clean and refuse-pits are common. There is no conservancy arrangement. The neighbouring fields are resorted to for the purpose of nature. The Hindus dead are burned on the banks of rivers and waste lands, while the Mahomedans bury their dead at a distance from houses.

Dacca ...	Jafarganj—Esraj	145,012	'08	18'76	1'06	'50
Faridpore ...	Polong—Esraj ...	236,290	'04	15'15	6'62	'34
Mymensing	Jamulpur—Esraj ...	155,936	'07	11'09	1'15	'24
	Dewanganj—Esraj	101,573	'009	14'31	'65	'03
Tipperah ...	Jagannathdighi—Esraj	106,516	'009	17'43	2'54	'13
Chittagong ...	Mobekhalli—Esraj	29,133	...	13'40	'51	'54
Patna ...	Dinapur—Towns ...	53,525	'73	16'14	'73	'99
Maulberpore	Sitaurtil, Behund, and Holanochpania—Esraj	463,137	'09	15'57	3'10	'09
	Katra—Esraj ...	187,340	'05	9'63	2'25	'10
	Paroo and Budraj—Esraj	233,957	'09	11'64	'71	'89
	Lalganj—Esraj ...	197,079	'07	14'04	'83	'11
	Mahwa—Esraj ...	310,444	'009	15'47	'16	'21
	Hajipur and Mahwar—Esraj	244,539	'04	11'35	'23	'24
	Poonree (Jeley)—Esraj	222,516	'23	13'32	3'62	'44
	Shewhur—Esraj ...	146,116	'03	10'34	1'47	'31
Durbhanga ...	Durbhanga—Esraj	337,423	'01	11'34	5'41	'07
	Dolsingheeroi	279,604	'05	16'15	'003	'06
	Tajpore	304,495	'01	10'63	'09	'03
	Nagarbati	255,605	'26	16'76	'41	'65
	Khatowli	161,640	'10	22'39	1'65	'77
	Phoolpares	270,451	'22	16'35	'96	1'69
	Madhubani	193,861	'16	14'75	2'33	1'80
	Roserah	245,027	'01	15'00	'26	'03
	Rabera	302,875	'03	8'05	'32	'15
	Bemiputi	273,743	'04	17'63	3'89	'18

Particulars regarding the sanitary condition of the villages in these thanas are not yet available

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fevar.	Cholera.	Bowel-com-plaints.			
Saron	Chupra—Baral ..	274,865	'11	7'11	'93	2'44			
	Sewan ..	301,323	'14	7'73	1'24	2'30			
	Gopalganj ..	260,388	'20	9'47	'81	1'69			
	Manghi ..	140,671	'08	10'19	1'15	'60			
	Buragoon ..	284,681	'47	12'00	'82	'85			
	Dighwara ..	120,663	'01	6'19	'33	2'49			
	Paras ..	231,455	'03	6'50	'41	1'08			
	Marath ..	151,404	'04	5'24	'43	'83			
	Basantpur ..	210,310	'10	10'50	'73	'82			
	Darwadi ..	283,453	'19	13'23	'75	'78			
Particulars regarding the sanitary condition of the villages in these thanas are not yet available.									
Monghyr ..	Jamulpur—Baral ..	193,933	..	15'17	1'39	'15			
Bhagalpore ..	Bungson—Baral ..	148,600	'01	14'07	1'23	'23			
Lohardugga	Barway—Baral ..	51,660	..	9'45	2'34	2'66			
	Biru ..	68,081	..	5'79	'03	'75			
	Baround ..	14,667	..	23'13	2'53	'68			

OFFICE OF THE SANY. COMMR. FOR BENGAL, }
The 24th May 1890.

W. H. GREGG, Dip. Publ. Health, Camb.,
Sanitary Commissioner for Bengal.

APPENDIX VI.



**CIRCULARS ISSUED BY THE SANITARY COMMISSIONER TO
MUNICIPALITIES IN BENGAL ON THE SUBJECT (1)
OF THE FORMATION OF A SANITARY BOARD AND (2)
REGARDING THE REGISTRATION OF VITAL STATISTICS.**

**CIRCULAR INTIMATING THE FORMATION OF A SANITARY BOARD
AND INVITING THE CO-OPERATION OF MUNICIPALITIES IN
MATTERS CONNECTED WITH DRAINAGE AND WATER-SUPPLY.**

Circular No. 163, dated Calcutta, the 21st October 1889.

From—SURGEON-MAJOR W. H. GREGG, M.B., Sanitary Commissioner for Bengal,

To—The Chairman of all Municipalities in the districts of the 24-Pergunnahs,
Hooghly and Howrah.

WITH the view of promoting sanitary reforms in Bengal by helping and encouraging the practical application of sanitary principles to towns and villages, the Government of India have approved the formation of a Sanitary Board, consisting of the Junior Member of the Board of Revenue as President, and the Sanitary Commissioner for Bengal and an Engineer officer as Members, whose chief duty it will be to assist and guide municipalities on important questions connected with sanitation. It is hoped that this Board will be formally constituted on an early date, and it has been suggested to me by several experienced and influential gentlemen, both official and non-official, who are well acquainted with the present condition and requirements of Bengal towns and villages, that one of the first duties of the Board should be to focus its attention on drainage and water-supply—the two measures best calculated to render Bengal towns more healthy and attractive than they are at present. There can be no doubt as to the wisdom of this suggestion, and I feel convinced that, with the co-operation of the Municipal Commissioners, the Sanitary Board will be able to suggest many valuable improvements in these matters. I am aware that a great deal at present is being done in municipalities to improve the drainage and water-supply, but as in most cases the Commissioners' action is not based on professional advice, and as each municipality, especially in the matter of drainage, is naturally apt to work in its own interests regardless of the interests of neighbouring municipalities, it sometimes happens that one municipality acts as a hindrance instead of a help to its neighbour in this respect. The object of the Sanitary Board will be to avoid such inconveniences by taking up, district by district, groups of municipalities the natural conditions of which are more or less the same, and considering, if possible, a comprehensive drainage scheme for the whole. It is accordingly proposed, in the first instance, to consider the requirements of the municipalities situated in the districts of the 24-Pergunnahs, Hooghly and Howrah, and my object in addressing this letter to you is to enquire if the Municipal Commissioners of _____ will be good enough to co-operate with us during the course of our investigation, and favour us with all the information, maps, surveys, levels, &c., which may be in their possession. The drainage arrangements of many municipalities are at present such that, with little alteration, they may be made to fit in with a proposed comprehensive drainage scheme; but in the preparation of such a scheme the Board would wish in all cases to act in co-operation with the municipalities concerned. As I propose to commence my inspection of the municipalities in the districts named above on the 1st proximo, I shall feel much obliged if you will kindly lay this letter before the Municipal Commissioners of _____ at an early date, and communicate the result to me as soon as you can conveniently do so.

CIRCULAR ON THE SUBJECT OF THE REGISTRATION OF VITAL STATISTICS.

Circular No. 164, dated Calcutta, the 31st October 1889.

From—SURGEON-MAJOR W. H. GREGG, M.B., Sanitary Commissioner for Bengal,
To—The Chairmen of all Municipalities in Bengal.

IN my Annual Report to Government for the year 1888, I remarked under the heading "Registration of Deaths" that the recorded mortality in towns taken as a whole showed an improvement in registration in 1888 over 1887, and pointed to the conclusion that Municipal Commissioners as a body took a greater amount of interest in 1888 than they did in 1887 in this important branch of their duties, but that an examination of the figures for 1887 showed that in most towns there was still a palpable deficiency in the accuracy of registration, the effect of which was to completely vitiate any conclusions which might be drawn from them as to the general health of the province. The Government of Bengal in endorsing these remarks observed:—"The registration both of births and deaths is still so extremely defective that no trustworthy conclusions can be drawn from it, either with regard to the general health of the province, or the healthiness of the year under report as compared with that of previous years," and His Honor the Lieutenant-Governor approved my proposal to issue a circular to all municipalities in Bengal, again drawing their attention to the importance of the subject and the many useful purposes which registration fulfils.

2. Since the publication of my Report and the resolution of the Government of Bengal upon it, there has been a marked improvement in the registration of vital statistics of many towns which were formerly very backward in this respect. But while heartily acknowledging this improvement in individual cases, I am constrained to observe that the figures for the province generally are still inaccurate, and show, when compared with the known conditions of several parts of the country, that a large number of births and deaths escape registration. Municipal Commissioners, however, have shown a distinct desire to improve matters in this respect, and I feel convinced that if they persevere in their endeavours and once realize the importance, especially to the Sanitary Department, of accurate vital statistics, and the great responsibility which rests on those who send in inaccurate returns, Government and the public generally would soon have statistics they could rely on in place of the inaccurate figures that are at present furnished.

3. Registration fulfils many useful purposes. It serves in the first place to facilitate the identification of individuals for the transmission of property and for the protection of life against crime. It affords data for the determination of life contingencies, which form the basis of life insurance. Lastly, and chiefly so far as the Sanitary Department is concerned, it furnishes to medical and sanitary science information of the highest value concerning the state of the public health. By means of registration efficiently conducted, the sanitary authorities of any locality are informed of the prevalence of preventable diseases, and are thus enabled to take the necessary measures for the protection of the public health. Moreover, registration reports, taken in connection with the census, yield statistical results which throw light upon the casual conditions under which prevailing diseases occur, and thereby prove an invaluable contribution to the science of preventive medicine. Registration, however, to be of value, *must* be conducted according to certain general principles which apply to all statistics: the data collected must be uniform and accurate as regards quality, and they must be complete as regards quantity; and to be useful as guides for sanitary measures, the registration returns must not only be complete and accurate, but they must reach the sanitary authorities whom they are destined to enlighten with the least possible delay. Prompt information is no less necessary than prompt action in such matters.

4. One of the latest and most useful evidences of the value of correct registration is to be found in an interesting and valuable memorandum, published with the Annual Report for 1887 of the Sanitary Commissioner with the Government of India, on "Cholera as a preventable disease" by Surgeon-Major G. Hutcheson, Officiating Statistical Officer to the Government of India, which embraces and summarises the statistics of cholera in the cantonments and jails of Bengal for the past thirty years. It is demonstrated, chiefly with the aid of the accurate death statistics kept in the cantonments and jails, that the mortality from cholera in the European and Native armies and among prisoners has declined to a remarkable extent in recent as compared with former years. Dr. Hutcheson concludes his memorandum in the following forcible language:—

"It is an indisputable fact that the incidence of the disease is greatly less in all more or less protected communities than it was, and that the average mortality from cholera was cent. per cent. more during the 16 years antecedent to 1873 than it has been during the more recent period. This enormous decrease in mortality, among troops and prisoners, is readily proved in whichever way the vital statistics be examined with reference to every section of the protected or partially protected communities. Again, where local sanitary protection is greatest, and palpable sanitary defects are fewest, there the improvement, as shown, is marked by the enormous total of 1,300 per cent. greater mortality in former as compared with later years. Such a demonstration of the preventability of a disease like cholera may serve to strengthen the hands of those to whom sanitary reform in India means the removal of sanitary blots stigmatized throughout the civilized world; and the mitigation of an ever-recurring pestilence which numbers its victims by tens and hundreds of thousands."

Had no record been kept of the mortality in cantonments and jails, or had that record been inaccurate and untrustworthy, preventive medical precautions could not have been satisfactorily adopted, sanitary authorities could not have known where to direct the operation of sanitary laws, and the death-rate among troops and prisoners, instead of declining as it has done, would probably have increased.

5. There is no reason why registration in municipalities should not be as accurate and trustworthy as it is in cantonments and jails, and I trust that the remarks made in this circular will have the effect of stimulating the energies of Municipal Commissioners, and inducing them to take a greater amount of personal interest in future in the correct registration of vital statistics, the extreme importance of which has now been pointed out to them.

MUNICIPAL DEPARTMENT.

SANITATION.

DARJEELING, THE 20TH JUNE 1890.

RESOLUTION.

READ—

The Report of the Sanitary Commissioner, Bengal, for the year 1889.

Dr. Gregg, who was in charge of the office of Sanitary Commissioner throughout the year, has again submitted a clear and concise report.

2. A period of nine years has elapsed since the last census of Bengal was taken, and the population of the Province, which at that time was sixty-six millions in round numbers, has now no doubt considerably increased, probably in the proportion of at least one per cent. per annum, and it may be confidently assumed that the population of Bengal now exceeds seventy millions. But as there are no trustworthy data upon which the increase can be estimated as in European countries, the census of 1881 is still accepted by the Sanitary Commissioner as the basis of all calculations in his report, and the small improvement in the registration of vital statistics, which the returns of the year show, is therefore discounted to some extent by the fact that the ratios are calculated upon the same population as in previous years.

3. Births are at present registered in Bengal in towns only. It is pointed out by the Sanitary Commissioner that in other provinces births are registered in rural areas as well as in towns, and that there is no reason why Bengal should be backward in this respect. The registration of births was discontinued in rural areas because of the extreme inaccuracy of the statistics collected, and the Lieutenant-Governor is disposed to think that it will be better to wait for some time longer, until birth statistics in towns and mortuary statistics generally are compiled with more efficiency than they are at present, before complying with Dr. Gregg's suggestion. Births are now registered in 137 municipal towns with an aggregate census population of 2,422,994. The ratio of registered births is only 22·76 per thousand, the ratio of male births being 12·05, against female births 10·70. Dr. Gregg observes that the supposed standard of birth-rate in India is 40 per thousand, and it is probably even higher than this. There are indeed 6 Municipalities in Bengal in which the statistics of birth exceed this ratio; but there are no less than 15 in which the statistics are so imperfectly recorded that the ratio is less than 10 per thousand. Among these is South Suburban Municipality, where the ratio is 7·47. In four Municipalities—Muktagacha, Jhalokati, Goberdanga, and Nasirabad—the ratio is less than 5 per thousand. In a large and wealthy Municipality like Patna the ratio is only 12·98, in Buxar it is 14·71, in Purneah it is 15·45, in Midnapore it is 15·73, in Jessore it is 16·71, in Dacca it is 17·71, in Cuttack it is 17·83, in Berhampore it is 18·89, and in Krishnaghur it is 19·68. When the registration in important Municipalities, at the head-quarters of districts, is still so defective, it appears to be hopeless to attempt registration with any approximation to accuracy in rural areas. It is true that the registration for 1889 shows a slight improvement over that of 1888, when the ratio of births was only 20·63; but the result is still very discouraging, and shows that Municipalities as a body do not pay attention to this elementary and very necessary portion of their duties. The Lieutenant-Governor has observed that during the current year, according to the statements published weekly in the Gazette, birth registration is still extremely deficient.

4. The same remarks are applicable to the registration of deaths in Municipalities. The registered mortality in 1889 was 25·03 per thousand, against 24·86 per thousand

in 1888. The statistics recorded vary very widely in different Municipalities, as the following figures will show:—

	1880.	1888.	Mean of 1884-88.		1880.	1888.	Mean of 1884-88.
Pooree	71.4	82.9	50.8	Cuttack	20.0	16.2	17.6
Purulia	49.5	50.8	28.8	Furzedpore	19.1	8.8	21.8
Rungpore	47.2	83.6	33.7	Arrah	16.6	21.6	16.7
Serampore	46.0	40.6	38.6	Krishnaghur	16.3	14.8	28.5
Ranigunge	42.3	45.1	30.9	Patna	15.3	21.0	22.5
Gya	42.2	40.3	49.8	Chitragong	15.0	18.7	21.7
Jamulpore	38.5	38.7	30.0	Santipore	11.7	9.4	13.6
City Moorshedabad	37.9	33.8	39.4	South Suburban	11.2	12.7	14.7
Utterpara	37.1	29.0	23.7	Ranaghat	10.9	6.6	11.4
Baranagore	36.8	30.6	24.4	Kishoregunge	10.9	5.4	17.6
Dinagore	31.4	31.5	21.9	Baduria	8.6	10.5	11.9
Hooghly	31.8	27.5	39.1	Tangail	5.3	9.2	18.9

The small improvement effected in the registration as a whole during the past year may be attributed to the special circular issued by Government on the subject, and to the action taken by the Sanitary Commissioner in supplementing the instructions then promulgated; but the registration in many Municipalities is still deplorably defective. There can be no reason why, under proper administrative arrangements, the registration should not be as complete at Patna and Arrah as it is at Gya, for instance, or in Ranaghat and Santipore as it is in Serampore and Utterpara. The South Suburban town is again conspicuous for its imperfect registration. The two newly created Municipalities of Cossipore-Chitpore and Manicktollah, where, in the former case, a mortality is registered of 38.9 per thousand, and in the latter only 14.5 per thousand, afford a marked illustration of good and bad work in adjoining localities. It is obvious that these figures supply very little scope for any observation on the comparative health of Municipalities during the year.

5. The registration of deaths is, however, effected throughout the whole province, and not in towns only, and when the whole area is taken into consideration, it is possible, notwithstanding the imperfection of registration, to deduce some important results. The total number of deaths registered in Bengal during 1889 (excluding still births) amounted to 1,597,478, against 1,515,735 in 1888, giving an annual death-rate of 24.25 and 22.94 respectively. As, in the opinion of the local medical officers, the year under review was not on the whole a more unhealthy one than 1888, the higher death-rate can only be ascribed to better registration, and the improvement, so far as it goes, is therefore satisfactory. The statements which are given of mortality according to sex and age enable some inference to be drawn of the respects in which registration is most deficient. Of the total number of deaths, 856,574 were males and only 740,904 females. The ratio of deaths is 26.2 males and only 22.3 females. As, according to the Census of Bengal, the number of females is slightly in excess of males, it follows that there is a special deficiency in the registration of female deaths, and further examination shows that this is the case in every district. The figures of death, according to age, give an infant mortality of 172.0 per thousand for infants under one year of age, and 26.7 for children of one year and under five years. Although this is the highest rate of infant mortality yet recorded for Bengal as a province, there are reasons

Ratio of mortality under one year of age Between one and five years	Calcutta.			Province of Bengal.	
	1886	1887	1888	1888	1889
	404.1	298.5	413.9	163.9	172.0
...	57.8	48.5	51.8	25.8	26.7

for believing that it is very much below the actual mortality. The statement marginally given shows in parallel columns the ratio of mortality among children in Calcutta compared with the ratio given for the past two years in the Sanitary Commissioner's reports, and the only inference which can be drawn from the figures is that the mofussil registration is very imperfect. Both in the mofussil and in Calcutta the infant mortality bears a proportion to the total mortality of all ages of about 31 per cent. But in Calcutta the number of children, for reasons which have frequently been explained; and which it is not necessary to re-state, is very small. The number of children under five years of age is only 6 per cent. of the total population. In Bengal, generally, the number of children under five years of age is no less than 16 per cent. of the population. The fact that the registered mortality of children shows the same population to the total population in Calcutta and in

in 1888. The statistics recorded vary very widely in different Municipalities, as the following figures will show:—

	1880.	1888.	Mean of 1884-88.		1880.	1888.	Mean of 1884-88.
Pooree	71.4	82.9	50.8	Cuttack	20.0	16.2	17.6
Purulia	49.5	50.8	28.8	Furzedpore	19.1	8.8	21.8
Rungpore	47.2	83.6	33.7	Arrah	16.6	21.6	16.7
Serampore	46.0	40.6	38.6	Krishnaghur	16.3	14.8	28.5
Ranigunge	42.3	45.1	30.9	Patna	15.3	21.0	22.5
Gya	42.2	40.3	49.8	Chitragong	15.0	18.7	21.7
Jamulpore	38.5	38.7	30.0	Santipore	11.7	9.4	13.6
City Moorshedabad	37.9	33.8	39.4	South Suburban	11.2	12.7	14.7
Utterpara	37.1	29.0	23.7	Ranaghat	10.9	6.6	11.4
Baranagore	36.8	30.6	24.4	Kishoregungo	10.9	5.4	17.6
Dinagore	31.4	31.5	21.9	Baduria	8.6	10.5	11.9
Hooghly	31.8	27.5	39.1	Tangail	5.3	9.2	18.9

The small improvement effected in the registration as a whole during the past year may be attributed to the special circular issued by Government on the subject, and to the action taken by the Sanitary Commissioner in supplementing the instructions then promulgated; but the registration in many Municipalities is still deplorably defective. There can be no reason why, under proper administrative arrangements, the registration should not be as complete at Patna and Arrah as it is at Gya, for instance, or in Ranaghat and Santipore as it is in Serampore and Utterpara. The South Suburban town is again conspicuous for its imperfect registration. The two newly created Municipalities of Cossipore-Chitpore and Manicktollah, where, in the former case, a mortality is registered of 38.9 per thousand, and in the latter only 14.5 per thousand, afford a marked illustration of good and bad work in adjoining localities. It is obvious that these figures supply very little scope for any observation on the comparative health of Municipalities during the year.

5. The registration of deaths is, however, effected throughout the whole province, and not in towns only, and when the whole area is taken into consideration, it is possible, notwithstanding the imperfection of registration, to deduce some important results. The total number of deaths registered in Bengal during 1889 (excluding still births) amounted to 1,597,478, against 1,515,735 in 1888, giving an annual death-rate of 24.25 and 22.94 respectively. As, in the opinion of the local medical officers, the year under review was not on the whole a more unhealthy one than 1888, the higher death-rate can only be ascribed to better registration, and the improvement, so far as it goes, is therefore satisfactory. The statements which are given of mortality according to sex and age enable some inference to be drawn of the respects in which registration is most deficient. Of the total number of deaths, 856,574 were males and only 740,904 females. The ratio of deaths is 26.2 males and only 22.3 females. As, according to the Census of Bengal, the number of females is slightly in excess of males, it follows that there is a special deficiency in the registration of female deaths, and further examination shows that this is the case in every district. The figures of death, according to age, give an infant mortality of 172.0 per thousand for infants under one year of age, and 26.7 for children of one year and under five years. Although this is the highest rate of infant mortality yet recorded for Bengal as a province, there are reasons

Ratio of mortality under one year of age Between one and five years	Calcutta.			Province of Bengal.	
	1886	1887	1888	1888	1889
	404.1	298.5	413.9	163.9	172.0
...	57.8	48.5	51.8	25.8	26.7

for believing that it is very much below the actual mortality. The statement marginally given shows in parallel columns the ratio of mortality among children in Calcutta compared with the ratio given for the past two years in the Sanitary Commissioner's reports, and the only inference which can be drawn from the figures is that the mofussil registration is very imperfect. Both in the mofussil and in Calcutta the infant mortality bears a proportion to the total mortality of all ages of about 31 per cent. But in Calcutta the number of children, for reasons which have frequently been explained; and which it is not necessary to re-state, is very small. The number of children under five years of age is only 6 per cent. of the total population. In Bengal, generally, the number of children under five years of age is no less than 16 per cent. of the population. The fact that the registered mortality of children shows the same population to the total population in Calcutta and in

the mofussil is therefore conclusive evidence of the deficiency of registration in the mofussil. There is no reason for believing that the actual infant mortality in Calcutta is materially higher than it is in other parts of Bengal. It is only necessary to add that in the mofussil the registration of the deaths of female children is conspicuously deficient, and that of the total number of deaths under five years of age 258,518 are male and only 225,513 are female deaths. The Lieutenant-Governor hopes that the Sanitary Commissioner's attention will be given to these figures, and that in future reports their meaning may be further elucidated. The question of infant mortality in India merits special enquiry from a statistical point of view, and it would be interesting to compare the figures now furnished for Bengal with those of admitted accuracy in Europe.

6. The Lieutenant-Governor observes that in none of the districts of Bengal is the total registered mortality below 15 per thousand, and acknowledges that this is an improvement over previous years. The registration is worst in Mozufferpore (15.78), Chumparun (16.52), and Durbhunga (17.64). In the 24-Pergunnahs the ratio is only 18.74. This result is not creditable to the police of these districts. The districts in which registration has been most successful are Pooree (44.4), Balasore (38.9)

	For the district.	For the municipal head-quarters.
Buckergunge	30.71	22.14
Cuttack	30.54	20.02
Beerbhoom	27.43	20.64
Shahabad	27.06	16.68
Patna	26.60	15.98
Howrah	23.99	22.71
Nuddea	22.27	16.37
Chittagong	21.33	15.09
Furruckpore	20.96	19.0

Darjeeling (36.2), Julpigorce (33.2), Noakholly (32.0), and Purneah (31.0). The figures given in the margin are quoted as showing that in many districts the registration of deaths among the whole population of the district (excluding municipalities) is more successfully accomplished by the executive police agency

than it is at the municipal head-quarters of districts, where special arrangements and special laws are in force for ensuring accuracy, although, as the result shows, without effect.

7. During the year under review 171,103 deaths were registered in the province from cholera, showing the high ratio of 2.59 per thousand of the population. The disease prevailed with much severity during the hot weather, especially in the month of April, when there were 33,003 deaths. The diagrams furnished with the Sanitary Commissioner's report are exceedingly interesting, and a great improvement over those given in former years, as they show for each district the incidence of cholera in proportion to the population, and not, as was formerly the case, the number of cholera deaths only. The most remarkable feature in the cholera history of the year is the excessive mortality in the Orissa Division, especially in Pooree. The ratio of deaths from cholera in the Pooree district was no less than 20.01 per thousand, in Balasore it was 13.74, and in Cuttack it was 8.29. With the exception of Purneah, in which the cholera mortality was 9.5 per thousand, the Orissa Division stands out in marked prominence as the home of cholera during the past year. The remarks of Dr. Walsh, the late Civil Surgeon of Pooree, on the prevalence of the epidemic in the town of Pooree, where the deaths from cholera were 23 per thousand on the population of the town, are quoted by the Sanitary Commissioner, and though objectionably worded they indicate a condition of affairs which imperatively calls for improvement at the hands of the municipality. He writes:—

"The increase of cases from February to March coincides with the arrival of 20,000 pilgrims for the Dol Jatra. These people are tired, and, as regards health, below par; probably also one or two of them are already suffering from the premonitory stage of cholera when they enter the town. While in Pooree they eat hardly anything but the *Mohaprosad* rice prepared in the temple and the half-ripe fruit and vegetables which are exposed for sale in the streets. The *Mohaprosad* is often sold to them after it has been kept for days. It is then in a fermented condition, unwholesome, and liable to bring on diarrhoea, the general precursor of cholera. The tanks also in the town of Pooree are all extremely holy and extremely filthy. It is the duty of every pilgrim to drink out of all these sacred tanks, and it is the custom of many of them to defile the tanks either with fæces or urine before they drink. The cholera poison is thus easily spread among a large number of people in a poor state of health, and very susceptible to the attacks of any infectious disease. The permanent inhabitants of the town draw their drinking water, as a rule, from public or private wells, and do not suffer much from cholera. January, February, August, September and October give a total number of nine deaths only. These are the months during which only very few pilgrims visit Pooree. In short, the chief causes of cholera in Pooree are fatigue after long

journeys, unsuitable or unwholesome food (both these predisposing causes prepare the subject and render him susceptible to the action of the cholera poison), and active cholera germs communicated by tank water. If the pandias were only amenable to the elementary forms of reason, or if the Municipal Commissioners would display a little more firmness and desire to improve the health of their fellow townspeople, much might be done to reduce this source of danger. A mandate in the name of Jagannath would stop the people from drinking indiscriminately from all the tanks, and one tank might be set apart and used only for drinking purposes. For a time the municipality, acting on my advice, forbade bathing in a certain selected tank, but they did not remain firm, and gave way to popular opinion, which seemed to be in favour of making this tank as dirty as all the rest. Until the people learn, or are forcibly taught (by means of section 277 of the Indian Penal Code), that water used for drinking purposes must not be defiled, so long will it be impossible to check the prevalence of cholera during the religious festivals in Pooree."

It is deplorable to think that the rate of mortality from cholera alone in the town and district of Pooree—a mortality which is largely due to preventable causes—was not less than the rate of mortality from all causes combined in an ordinarily healthy city or rural area in more favoured countries.

8. The outbreak in Purneah, of which the figures have already been given, was the severest known for years. It is supposed to have originated at the Caragola Fair, and so to have spread over the district. The insufficiency and impurity of the water-supply along the principal roads and communications in all the districts of Bengal is undoubtedly a prolific source of cholera. Dr. Gregg truly observes:—"Until the water-supply of the province is improved, and adequate sanitary arrangements made at fairs and other places where a large number of people assemble, I am afraid that there will be little or no diminution of the death-rate from cholera in Bengal." And again:—"The well-known predisposing causes, viz., polluted water, local insanitary conditions, imperfect drainage, errors of diet, and importation, are indicated as exciting and favouring, if not absolutely originating, this disease; but, as usual, the evidence is in the main confirmatory of the view that outbreaks of cholera are traceable to pollution of drinking water."

9. The total number of deaths from small-pox during the year was 8,665, or 13 per thousand of the population. The ratio was higher in towns than in rural areas, and this is attributed by Dr. Gregg "to neglect of vaccination, which is not creditable to Municipal Commissioners." The disease prevailed with the greatest severity in Pooree, Chumparun, and Bankoora.

10. The total number of deaths from fever was 1,101,521 or 16.72 per thousand of the population. The ratio of urban mortality was 10.84, and of rural mortality 16.02. There is a steady increase, year by year, in the number of deaths recorded from fever, but it is probable that this result is due to improvement in registration and increase in the population rather than to greater unhealthiness of climate. The lowest mortality from fever is invariably in the month of June,

Districts.	Ratio per mille.	when it gradually rises till it reaches its maximum during the drying up of the rains in November and December. The death-rate was highest in the 14 districts noted in the margin, and the cause, in all districts alike, is attributed to impeded drainage. Many extracts from the reports of Civil Surgeons are given, which show that the prevalence of malarial fever in Bengal is not due to inundations, which on the contrary are beneficial to health as a means of flushing, and that it is only where the surface drainage is obstructed, and the water sinks into and stagnates in the soil, that the locality becomes malarious.
Julpigoree	... 29.18	The Lieutenant-Governor observes that the province of Orissa is remarkable for the comparative absence of fever, and that the district of Pooree, which in other respects has attained the unenviable notoriety of being the most unhealthy district in Bengal, shows the smallest fever mortality. The Sanitary Commissioner's report throws no light on this coincidence, but the point is one which seems to merit further enquiry and explanation.
Nonkhully	... 25.77	
Dinagapore	... 25.74	
Monghyr	... 24.54	
Darjeeling	... 22.93	
Rajshahye	... 22.74	
Rungpore	... 22.07	
Jessore	... 21.44	
Gya	... 21.31	
Maldah	... 21.20	
Bhagulpore	... 20.93	
Hazaribagh	... 20.84	
Purneah	... 20.59	
Shahabad	... 20.45	

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11. After making the necessary adjustments on account of the amalgamation of the Suburban Municipality with the town of Calcutta, the total sanitary expenditure incurred

Expenditure on sanitation in Municipalities.

in mofussil Municipalities during the year is reported to be Rs. 12,81,031, against an expenditure of Rs. 11,30,081 incurred in 1888. The principal increase is under the head of conservancy and water-supply. The general result is undoubtedly satisfactory. The Sanitary Commissioner remarks:—“It will be seen that on the whole Municipal Commissioners are doing what they can to improve the sanitary condition of their towns; but although a good deal has been done, and is being done, I am again compelled to remark that in many cases municipal income is wasted on temporary works and on works of minor importance, while works of a more needed, substantial, and lasting nature, such as drainage, water-supply, and public latrines, are neglected.” The Lieutenant-Governor is glad to notice that during the present year Municipalities have applied in several cases for loans in order to undertake important works of permanent sanitary improvement, and desires to take this opportunity of again assuring Municipal Commissioners that such applications will always receive the most favourable consideration from Government.

12. The Sanitary Commissioner's report does not touch on the work of sanitation under District Boards. The truth is that, although the promotion of sanitation is a duty entrusted under the Local Self-Government Act to District Boards, little or no progress is made in this direction, because the Boards possess no funds for the purpose. The Boards in Bengal are not vested with powers to impose local taxation to meet the requirements of local sanitation. And yet no grievance presses more hardly on the people than those which are created by the insanitary condition of the country. Constant complaints come to the notice of Government, through the vernacular press and elsewhere, of the necessity of improved drinking water, and in a hardly less degree of improved drainage, from almost every district of these provinces. The agency for the execution of sanitary reform in rural areas, and the means by which such reforms may be executed, are questions now under the consideration of Government.

13. Dr. Gregg was indefatigable during the year in his inspection of Municipalities and in the preparation of schemes for their sanitation. A copy of his more important inspection memoranda constitutes a very useful annexure to his present report. Since the close of the year a Sanitary Board, consisting of Sir Henry Harrison, Member of the Board of Revenue, as President, and Colonel McNeile, Chief Engineer and Secretary to Government in the Irrigation Branch of the Public Works Department, and Dr. Gregg, the Sanitary Commissioner, as members, has been appointed, and a whole-time officer will be placed at the disposal of the Board as Sanitary Engineer. The function of this officer will be to accompany the Sanitary Commissioner on his tours; to work in concert and concurrence with him in the preparation of designs, plans and estimates; to guide the Municipalities in getting up projects, and, after these have been approved by the Board and under the advice of the Chief Engineer, to inspect the works while in course of construction and report to the Board on the progress made. It is intended that he should be the right-hand man of the Sanitary Commissioner in all matters involving engineering knowledge and experience. The Sanitary Board will be the executive agency through which the Government will act in the Sanitary Department, and it is hoped that, if judiciously worked, it will exercise a powerful initiative and a valuable control in all departments of sanitary work.

14. The thanks of Government are due to Dr. Gregg for the services he has rendered to the cause of sanitation during the year. The Lieutenant-Governor is glad to acknowledge also the good work done by Surgeons-Major Gupta and Waddell, and Assistant Surgeon Norendro Nath Gupta, Deputy Sanitary Commissioners of the Metropolitan, Darjeeling, and Eastern Bengal Circles, to which Dr. Gregg draws attention.

By order of the Lieutenant-Governor of Bengal,

H. J. S. COTTON,

Secretary to the Govt. of Bengal.

Circular No. S $\frac{1-R}{5}$ 14.

COPY of the Resolution, and of the Report, forwarded to all Commissioners of Divisions for information, and for communication to District Officers and all Municipalities within their divisions for information and guidance.

No. S $\frac{1-R}{5}$ 15.

COPY of the Resolution forwarded to the Sanitary Commissioner, Bengal, for information and guidance.

No. S $\frac{1-R}{5}$ 16.

COPY of the Resolution, and of the Report, forwarded to the Secretary of the Sanitary Board for information.

No. S $\frac{1-R}{5}$ 17.

COPY of the Resolution, and of the Report, forwarded to the Inspector-General of Civil Hospitals, Bengal, for information.

No. S $\frac{1-R}{5}$ 18.

EXTRACT paragraph 63 of the Report, and paragraph 14 of the Resolution, forwarded to the Appointment Department for information.

By order of the Lieutenant-Governor of Bengal,

H. C. STREATFIELD,

Offy. Under-Secretary to the Government of Bengal.

DARJEELING,
The 20th June 1890.

TWENTIETH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER FOR BENGAL .

FOR THE YEAR 1887.

INCLUDING BRIEF NOTES ON VACCINATION IN BENGAL FOR THE
YEAR 1887-88.

✓ 21/19

BY

DEPUTY SURGEON-GENERAL R. LIDDERDALE, M.D.,
Sanitary Commissioner for Bengal.

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TWENTIETH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER FOR BENGAL.

YEAR 1887.

INTRODUCTION.

1. In this report are given the vital statistics and sanitary history of the Province of Bengal for the calendar year 1887, and short notes on vaccination of the Province for the financial year 1887-88, but the statements forming Appendices I and II do not include the figures for the Town of Calcutta.

SECTIONS I, II, III, & IV.

2. Under the standing orders on the subject, the matters dealt with in these sections are omitted from the Provincial Sanitary Commissioner's report.

SECTION V.

VITAL STATISTICS.

3. To facilitate the working of Act V (B.C.) of 1880, the Compulsory **REGISTRATION—VALUE OF—IN** Vaccination Act, the Government during the 1887. year 1886 directed the revival of birth registration in a number of towns in the Province. **BIRTH REGISTRATION.** These events during 1887 were recorded in 100 towns, with a population of 2,311,531. They amount to 44,742, giving a ratio of 19·35 per 1,000 of population, a very imperfect result.

Those towns in which attention was given and those in which registration was manifestly neglected are shown below:—

Approximately correct results.

Towns.	Ratio per mille.	Towns	Ratio per mille.
Jamalpure in Monghyr	50·21	Sherepur	34·09
Pubna	43·29	North Dum-Dum	33·45
Sewan	39·00	Durbhanga	33·43
Brahmanbaria	37·62	Chattrā	31·84
Sitamarhi	36·24	Monghyr	31·46
Comillah	35·61	Kendrapara	30·96
Hazaribagh	35·54	Beaulah	30·87
Bettiah	34·56	Rajpur	30·82
Assensole	34·44		

Very defective results.

Towns.	Ratio per mille.	Towns.	Ratio per mille.
Jehanabad in Hughli	... 11.49	South Suburban	... 11.49
Kustea	... 11.66	Chundrakona	... 11.66
Baraset	... 12.22	Dacca	... 12.22
Barisal	... 12.43	Baduria	... 12.43
Satkhiria	... 12.50	Madhubani	... 12.50
Nassirabad	... 12.97	Seraiganj	... 12.97
Boidobatty	... 13.14	South Barrackpore	... 13.14
Bogra	... 13.46	Burdwan	... 13.46
Sudharam	... 13.65	Naihatta	... 13.65
Ranaghat	... 14.51	Bali	... 14.51
Debbhatta	... 14.58	Purneah	... 14.58
Kulna	... 14.64	Bansbaria	... 14.64
Bhuddesar	... 15.10	Faridpur	... 15.10
Kishoreganj	... 15.33	Puri	... 15.33
Jajpur	... 15.37	Midnapur	... 15.37
Chupra	... 15.90	Purulia	... 15.90
Nobodip	... 16.24	Baranagor	... 16.24
Joynagor	... 17.31	Chybassa	... 17.31
Mozufferpore	... 18.05	Ramjibanpur	... 18.05
Mehorpur	... 18.10	Cuttack	... 18.10
Jessore	... 18.18	Bankura	... 18.18
Taki	... 18.52	Goherdanga	... 18.52
Ranchi	... 18.63	Kishnagar	... 18.63
Darjiling	... 18.80	Barra	... 18.80
Rungpore	... 19.00	Dainhat	... 19.00
Cutwa	... 19.19	Suburbs of Calcutta	... 19.19
English Bazar	... 19.20	Chittagong	... 19.20
Santipur	... 19.35	Tumlook	... 19.35
Bussirhat	... 19.42	South Dum-Dum	... 19.42
Kumarkhally	... 19.49	Patna	... 19.49
Hajipur	... 19.86	Jehanabad	... 19.86
Kotrung	... 19.89	Howrah	... 19.89
Uttorpara	... 19.96		

In other municipalities the rates varied from 20.64 to 29.13. The very defective registration shown has arisen from the neglect of the Municipal Commissioners into whose hands this duty passed from the Police. There is clear evidence of this neglect in the widely-differing ratios of neighbouring towns in the same districts as in Sitamarhi and Mozufferpore and in Jajpur and Kendrapara in the Cuttack district.

4. In a population of 66,163,884, according to the census of 1881, there occurred in the year 1887 1,552,528 deaths, giving a ratio of 23.46 per 1,000, against, 1,455,305 deaths in 1886 with a ratio 21.99.

The mean ratio of the previous five years is 20.96, so that registration is improving, though very slowly. The credit for improved results must not be assumed, however, as the only factor, as it may reasonably be supposed that the population has been going on increasing since 1881, and that a higher death return naturally follows. At the end of the year the estimated population of the Province should be 72,483,411, which would give a death-rate of only 21.41 per thousand.

Approximately correct results.	Defective results.
Monghyr ... 35.31	Mozufferpore ... 12.53
Gya ... 33.66	Faridpur ... 14.55
Puri ... 33.38	Darbhanga ... 14.96
Jalpaiguri ... 33.11	Chittagong ... 15.29
Rajshahye ... 32.64	Southern Pargannas ... 15.88
Dinajpur ... 32.38	Bankura ... 15.96
Shahabad ... 31.60	Mymensingh ... 16.01
Backerganj ... 31.16	Singbhum ... 17.02
Rangpur ... 29.64	Manbhum ... 17.54
Maldah ... 29.24	Seramapore ... 18.68
Blaghpore ... 28.42	Cuttack ... 18.90
Darjeeling ... 28.37	Burdwan ... 19.43
Bogra ... 28.16	Howrah ... 19.95
Murshetabad ... 27.85	
Nuddea ... 26.93	
Birbhum ... 26.64	
Hazaribagh ... 26.26	
Pubna ... 26.08	
Lohardugga ... 25.68	
Patna ... 25.50	
Chumparan ... 25.03	

and is unworthy of further consideration. There are no reasons I know of connected with districts in Behar which render mortuary registration more

5. I give marginally the districts in which death registration is shown to have had fair attention bestowed upon it by the local officers and districts where it has not. The remaining 11 districts yielded casualty rates from 20.06 to 24.88. Any deductions from the results given in the tables with regard to the health status of the country are unnecessary, as they would be absolutely incorrect. The most unhealthy district in Bengal is Monghyr, but this arises from the energy of the police officer, not the nature of the climate. The rate of Mozufferpore (12.53) only reflects discredit on the district administration,

difficult in them than elsewhere, indeed the presence of village accountants and European lease-holders of villages would have justified the expectation of obtaining fairly useful figures. The death-rate of Faridpur is lower than that of 1886 and of the mean of the previous five years. It is less than half that of Backergange (31·16), a neighbouring district. A true record is hardly to be looked for in such districts as Singbham and Lohardugga, but such a difference as Cuttack 18·90 and Puri 33·38 seems inexcusable. In the Burdwan Division correct results would naturally be looked for, but Bankura district gives a rate of 15·95, Serampore 18·68, Burdwan 19·43, and Howrah 19·95. Close to Calcutta as the last three districts are, much better results might be expected. It is evident that in this division as in others registration has not had the attention the great importance of the matter demands.

6. Exclusive of still-births, 1,552,528 deaths are recorded during the year, giving a death-rate of 23·46 per mille, in comparison with 1,455,305 and a rate of 21·99 in 1886, and a mean rate of 20·96 in the previous five years. I have before shown that taking the estimated population of the Province at the end of the year 1887, the ratio deducible from the very incorrect figures submitted to this office is 21·41, which is, I believe, about half the true rate in many districts. The provisions of Act IV (B.C.) of 1873, the law making compulsory the registration of births and deaths, were extended during the year to the towns mentioned in the margin. Birth registration was not revived in any of the municipalities in Bengal during the year.

7. In obedience to the orders of Government the statement below is given, showing the municipalities in which prosecutions under the Act were instituted during the year:—

DISTRICTS.	Towns.	Names of municipalities.	Number prosecuted.	Number convicted.	Number acquitted.	Number struck off.	Number warned.	Number pending.	Amount of fines realised.	RATIO PER 1,000 OF POPULATION.	
										Births.	Deaths.
Burdwan	Burdwan	Baraset.	1	1	...	...	...	...	Rs. A. P.	13·46	21·33
	Raniganj	Chaglah.	43	36	...	...	...	...	72 12 0	27·05	23·25
	Dainhat	Jessore.	10	8	...	...	...	...	8 1 0	19·00	30·22
	Culina	Khulna.	4	4	...	...	...	...	8 0 0	6·32	17·16
Bankura	Bankura	Jungipur.	7	7	...	...	...	...	1 12 0	18·18	12·58
	Midnapore	Madaripur.	6	6	...	...	...	...	1 4 0	15·37	19·45
Midnapore	Turnoek	Jamui.	24	23	1	...	...	...	7 9 0	19·35	20·63
	Ghattal	...	3	3	...	...	...	...	4 8 0	27·06	14·00
	Ramjibanpur	...	10	8	...	...	...	...	14 4 0	18·05	19·06
	Khirpai	...	4	4	...	...	...	...	5 8 0	21·44	42·89
Hughly and Serampore.	Hughly	...	18	15	3	1	...	...	9 14 0	20·38	26·01
	Banbaria	...	7	6	1	...	...	...	2 0 0	12·08	30·39
	Serampore	...	12	9	3	...	...	...	4 8 0	27·47	30·10
	Boidobatty	...	3	3	...	...	...	...	0 8 0	3·96	11·27
24-Pergunnahs	Uttorpara	...	3	2	...	...	1	...	0 2 0	18·96	18·36
	Augurpara	...	4	1	2	1	...	...	0 8 0	9·80	20·84
	Nowabganj	...	10	9	1	...	...	...	10 8 0	21·01	25·30
	Bassirhat	...	5	5	...	...	...	...	...	10·56	10·46
Nuddea	Ranagore	...	18	18	...	...	...	...	8 4 0	10·24	25·61
	Rajpur	...	20	26	...	...	...	...	11 9 0	30·82	24·01
	Naihaty	...	4	4	...	...	...	...	4 0 0	13·65	16·90
	Baduria	...	43	...	...	43	...	...	...	18·33	7·02
Jessore	Kishnagore	...	1	1	...	...	...	...	0 8 0	18·63	21·72
	Banachhat	...	1	1	...	...	...	...	2 0 0	5·75	0·33
	Birnagore	...	2	2	...	...	...	...	1 8 0	6·33	17·04
Murshedabad	Kotchandpore	...	9	9	...	...	...	...	4 8 0	Not under registration.	26·75
	Berhampur	...	11	8	...	3	...	...	4 12 0	Data not furnished.	23·17
Khulna	City Murshedabad	...	18	18	1	...	1	...	8 8 0	Ditto	42·64
	Khulna	...	1	1	...	...	...	...	0 4 0	3·01*	14·08
Rajahmundry	Nattore	...	4	4	...	...	...	...	8 4 0	Not under registration.	26·72
	Rungpur	...	6	5	1	...	...	...	8 14 0	9·23	29·05
Bogra	Sherepur	...	2	2	...	...	...	...	0 12 0	15·73	28·57
	Serajganj	...	50	28	...	23	...	...	13 4 0	12·97	31·56
Pabna	Pabna	...	24	7	17	...	...	...	1 10 0	45·29	32·48

* Ratio based on 9 months only, as the registration of births commenced from April 1887.

DISTRICTS.	TOWNS.	Number prosecuted.	Number convicted.	Number acquitted.	Number struck off.	Number warned.	Number pending.	Amount of fines realised.	RATIO PER 1,000 OF POPULATION	
									Births.	Deaths.
								Rs. A. P.		
Dacca	Dacca	2	2	...	...	...	...	4 1 0	12'22	15'73
	Narainganj	20	20	...	...	...	...	11 12 0	27'86	26 59
Faridpur	Faridpur	6	5	1	...	...	...	1 8 0	11'10	11'78
	Madaripur	20	15	...	5	...	...	18 13 0	18'98*	5'96
Backergange	Barisal	2	1	1	...	...	...	0 4 0	2'05	19'33
	Perozepur	6	5	...	1	...	...	2 8 0	Not under registration	72'19
Mymensingh	Sherpur	2	2	...	...	...	...	1 8 0	34'09	37'48
Tipperah	Comillah	3	3	...	...	...	...	5 3 0	35'61	30'13
	Brahmanbaria	10	17	1	1	...	...	4 6 0	37'02	30'04
Patna	Behar	16	14	2	...	...	...	5 4 0	27'00	14'51
Shahabad	Arrah	3	...	3	...	...	...	...	23'03	31'13
	Buxar	6	6	...	...	...	...	1 9 0	23'89†	21'14
	Bhabuah	24	24	...	...	...	...	3 0 0	25'12‡	35'96
Mozufferpore	Hajipur	6	6	...	...	...	...	4 4 0	10'77	14'78
	Lalganj	18	18	...	...	...	...	5 12 0	25'83	21'09
Durbhunga	Durbhunga	8	7	1	...	...	...	10 0 0	33'43	26'74
Sarun	Chupra	1	...	1	...	...	...	...	7'19	8'50
	Sowan	7	6	1	...	...	...	6 0 0	39'00	38'16
Chumparan	Motibari	19	17	2	...	...	...	4 0 0	22'70	31'62
Monghyr	Monghyr	10	5	5	...	...	...	12 0 0	31'40	25'10
	Jamulpore	13	8	5	...	...	...	11 0 0	50'21	33'90
Bhagulpore	Bhagulpore	16	4	...	8	...	4	0 12 0	28'73	30'47
	Colgong	4	2	...	...	...	2	1 8 0	Not under registration	30'50
Purneah	Purneah	11	10	1	...	...	...	7 12 0	14'58*	30'03
Maldah	English Bazar	1	1	...	...	...	...	0 8 0	9'65	9'89
	Old Maldah	2	1	1	...	...	...	0 8 0	9'39	27'65
Cuttack	Cuttack	45	38	5	2	...	...	31 2 0	18'10	16'37
	Kendrapara	3	3	...	...	...	...	1 0 0	30'90	22'10
Balasore	Balasore	82	61	...	21	...	...	18 12 0	Not under registration.	24'37
Hazaribagh	Hazaribagh	147	110	27	1	...	...	45 12 0	35 54	30'24
	Chattra	6	6	...	...	...	...	7 8 0	31 84	31'42
Lohardugga	Ranchi	3	3	...	...	...	...	2 12 0	9'05	11'92
Singbhum	Chybassa	7	7	...	...	...	...	2 4 0	17'31	26'64
Maubhum	Purulia	5	2	3	...	...	...	2 8 0	15'90	19'88
	Total	931	710	101	112	...	8	450 14 0	.....	.....

* Ratio based on 9 months only, as the registration of births commenced from April 1887.
† Ditto 7 ditto ditto ditto ditto June 1887.
‡ Ditto 6 ditto ditto ditto ditto July 1887.

This statement generally shows that where the provisions of the Act were not utilised especially with regard to births, registration was disgracefully neglected. The results obtained in Chupra, English Bazar, Boidobatty, Ranaghat, Ranchi, Burdwan, and other towns sufficiently illustrate this. That the Municipal Commissioners of Ranchi presided over by a European Deputy Commissioner, should institute only three prosecutions and realise in fines the sum of Rs. 2-12, while the birth and death-rates of their town only reach 9·05 and 11·92 respectively, reflects very little credit on their administration. Only 931 persons were prosecuted, of whom 710 were convicted, or 76 per cent., and a sum of Rs. 450-14 realised as fines, in 68 towns of the Province. In 1886, 994 persons were prosecuted in 61 towns, and the fines recovered were Rs. 424. The feeble administration of this useful law is a matter to be much regretted, as with its assistance reliable statistical information could easily be obtained.

BIRTH STATISTICS.

8. Leaving out of consideration 1,385 still-births, 44,742 children were born in 100 towns in the year 1887, giving a birth-rate of 19·35 per mille of a population aggregating 2,311,531. In 1886 a birth-rate of 21·04 per 1,000 was obtained from a population (1,650,855) distributed in 45 towns. The death-rate in the towns under birth registration in 1887 was 24·33, giving an excess of death-rate over that of births of 4·98.

9. Of the children born in the year, there were 23,718 males and 21,024 females, giving ratios per 1,000 of population of 10.26 and 9.09 respectively, and there were 1,128 boys to every 1,000 girls.

Births according to Class or Nationality.

CLASS OR NATIONALITY.	NUMBER OF BIRTHS.		RATIO PER MILLE.	
	In 1887.	1886.	1887.	1886.
Christians	408	454	21.10	25.81
Hindus	21,305	24,207	19.23	20.92
Mahomedans	12,904	10,000	19.74	21.23
Budhists	8	10	8.64	4.72
Other classes	50	63	11.33	15.79

10. The marginal table shows the facts as recorded, and that with a more extended area under registration there has been a proportional fall under all classes of the community. As before, Christian and Mahomedan births are better registered than among Hindus.

11. In the statement below the municipalities are exhibited in which the highest proportion of births was recorded, in which the relation of male to female births is fairly correct, and those in which there is an excess of births over deaths.

<i>Highest proportion of Births.</i>		<i>Male born to every 1,000 Females born.</i>		<i>Excess of births over deaths.</i>	
Towns.	Ratio per mille.	Towns.	Ratio.	Towns.	Rate of excess per mille.
Jamalpore in Monghyr	60.21	Behar	1005	Jamalpore in Monghyr	16.31
Pubna	43.29	Jamalpore in Monghyr	1020	Behar	13.09
Sewan	39.00	Beaulcah	1023	Ghattal	13.06
Brahmanbaria	37.62	Durbhun a	1023	Sitamarhi	12.41
Sitamarhi	36.24	Shahebganj	1025	Assensolo	11.48
Commillah	35.61	Purulia	1027	Pubna	10.81
Hazaribagh	35.54	Sherepur	1034	Bishenpur	9.36
Bettiah	34.50	Monghyr	1038	Kendrapara	8.86
Assensolo	34.44	Faridpur	1039	North Dum-Dum	8.65
Sherepur	34.09	Sewan	1043	Brahmanbaria	7.58
North Dum-Dum	33.45	Revilganj	1044	Sewan	6.84
Durbhanga	33.43	Hazaribagh	1045	Rajpur	6.81
Chattra	31.84	Cuttack	1049	Durbhanga	6.69
Monghyr	31.46	Chattra	1059	Monghyr	6.36
Kendrapara	30.96	Bettiah	1064	Bankura	5.65
Beaulcah	30.87	North Dum-Dum	1071	Commillah	5.43
Rajpur	30.82	Kishnagur	1072	Hazaribagh	5.30
Revilganj	29.13	South Barrackpore	1076	Chittagong	5.02
		Gya	1078	Baduria	4.81
		Suburbs of Calcutta	1079	Jamalpore in Mymensingh	3.85
		Narainganj	1083	South Dum-Dum	3.76
		Lalganj	1083	Faridpur	3.32
		Baduria	1087	Lalganj	2.74
				Howrah	2.34
				Arrah	1.91
				Cuttack	1.73
				Utterpara	1.61
				Barrh	1.35
				Narainganj	1.27
				Chattra	.42
				Busirhat	.10

12. Returns of the events under this head have up to date been received from Government for only the first three quarters of the year under review. During that period 347 births were registered of which 166 were males and 181 females.

DEATH STATISTICS.

13. The population used in the computation of the death statistics of the Province is that disclosed by the census of 1881, viz., 66,163,884. Its distribution according to sex, class or nationality and areas of residence is marginally detailed. The main registering circles into which the Province is divided are 645, of which 93 are urban and 552 rural.

Population under registration.

<i>Areas of Residence.</i>		<i>Class or Nationality.</i>	
In urban areas	2,409,578	Christians	1,01,884
„ rural „	63,754,306	Hindus	42,953,029
		Mahomedans	21,861,957
		Budhists	79,721
		Other classes	1,637,293
Males	32,832,816		
Females	33,331,668		

14. The total number of deaths, excluding 30,438 still-births, was 1,552,528, giving a death-rate of 23.46 per mille. This shows an increase of 97,223 deaths an improved ratio of 1.47 over 1886, and of 2.50 per mille over the lustrum, 1882—86.

Number and proportion of deaths to population.

15. The following statement shows the mortality of urban and rural circles, and the total for the Province during the past year as compared with that of 1886 and the lustrum 1882—86:—

	In 1887.		In 1886.		In 1882—86.		INCREASE OR DECREASE AS COMPARED WITH 1886.		INCREASE OR DECREASE AS COMPARED WITH 1882—86.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Urban	58,122	24.12	65,778	27.29	69,845	28.98	7,651 D	3.17 D	11,723 D	4.86 D
Rural	1,494,406	23.44	1,389,532	21.79	1,318,932	20.65	104,874 I	1.65 I	177,454 I	2.79 I
Province	1,552,528	23.46	1,455,310	21.99	1,388,777	20.98	97,223 I	1.47 I	189,182 I	2.50 I

16. Mortality from the specific death causes.

The following table shows the mortality from specific death causes during the past year as compared with that of 1886 and the lustrum 1882—86:—

	RATIO OF DEATHS PER 1,000 OF POPULATION.									INCREASE OR DECREASE AS COMPARED WITH 1886.			INCREASE OR DECREASE AS COMPARED WITH 1882-86.		
	In 1887.			In 1886.			In 1882-86.			Urban.	Rural.	Province.	Urban.	Rural.	Province.
	Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.						
Cholera	3.40	2.57	2.60	4.12	1.70	1.78	4.32	2.08	2.11	78 D	87 I	82 I	72 D	54 I	40 I
Small-pox	13	05	05	08	06	06	13	15	10	05 I	01 D	01 D	10 D	10 D	11 D
Fever	16.45	18.06	17.44	12.29	16.11	16.97	13.86	14.87	14.84	1.84 D	55 I	47 I	3.44 D	1.79 I	1.60 I
Bowel-complaints	3.48	7.6	85	3.77	73	84	3.72	78	80	29 D	63 I	01 I	34 D	02 D	02 D
Injury	40	40	40	50	43	44	38	38	38	10 D	03 D	03 D	04 D	02 I	02 I
Other causes	6.22	2.97	3.09	6.51	2.74	2.68	6.19	2.42	2.56	29 D	23 I	21 I	01 I	55 I	53 I
Total	24.13	23.44	23.46	27.20	21.79	21.99	28.98	20.65	20.98	3.17 D	1.65 I	1.47 I	4.86 D	2.79 I	2.50 I

17. Comparative Mortality in Bengal, Behar, and Orissa.

The marginal table supplies this information and shows that Orissa retains its pre-eminence for cholera mortality. Behar stood next in 1887, its large death-rate from this cause being the result of the severe outbreaks during the year in Gya, Chumbarun and Shahabad. Bengal stands at the bottom of the list in 1887, with a death-rate of 1.70 only. From small-pox also Orissa affords the highest death-rate, followed by Behar, the two divisions of the Province in which vaccination is very incomplete. Where the protection is fair as in Bengal, a rate of .01 only can be reached. Bengal as usual has the highest death-rate from fever, and in 1887 it exceeded that of 1886, or of the preceding five years.

	RATIO PER MILLE OF POPULATION.				
	1887.	1886.	1882—86.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882—86.
<i>Cholera.</i>					
Orissa	4.87	4.18	4.18	.69 I	.69 I
Behar	3.65	1.11	1.70	2.54 I	1.96 I
Chota Nagpore	2.45	.90	.97	2.15 I	1.76 I
Bengal	1.70	2.17	2.29	.47 D	.59 D
<i>Small-pox.</i>					
Orissa ... ..	.84	.21	.55	.13 I	.21 D
Behar ... ..	.08	.11	.25	.03 D	.17 D
Chota Nagpore ... ..	.02	.02	.13	Equal	.11 D
Bengal ... ..	.01	.01	.02	Do.	.06 D
<i>Fever.</i>					
Bengal	17.90	17.15	16.74	.75 I	1.16 I
Behar	15.96	16.03	13.63	.17 D	2.23 I
Chota Nagpore	15.10	12.85	12.36	2.25 I	2.84 I
Orissa	7.57	8.02	7.15	.45 D	.42 I
<i>Bowel-complaints.</i>					
Orissa	3.19	2.81	3.05	.38 I	.14 I
Chota Nagpore	1.32	.86	1.11	.47 I	.21 I
Behar ... ..	.69	.72	.80	.03 D	.11 D
Bengal ... ..	.66	.70	.69	.04 D	.03 D

Behar stood next and Orissa as usual lowest of all. From bowel-complaints Orissa suffered most and Bengal least. As the results, however, are unfortunately obtained from very imperfect registration, they must only be accepted as giving general indications of the incidence of disease.

18. As shown in the margin, the fourth quarter as usual was the one

Seasonal incidence of disease.

Periods.	Deaths in 1887.	Deaths in 1886.	Deaths in 1882-86.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
First quarter...	856,293	819,583	812,423	36,710 I	43,864 I
Second "...	879,789	804,632	817,039	75,157 I	62,750 I
Third "...	887,815	827,233	824,077	60,582 I	63,738 I
Fourth "...	423,632	503,827	438,253	75,223 D	4,381 D

attended by the highest mortality in 1887, and the deaths rose from the first to the fourth quarter as in the five-year period 1882-86, differing from the year 1886, when the second was the quarter with smallest mortality. In 1887 there was an increase of mortality in the first three quarters, and a decrease in the fourth in comparison with

the other periods set forth in the table.

Mortality according to sex.

	In 1886.		LUSTRUM 1882-86.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Males ...	751,365	23.70	750,829	22.86
Females ..	673,620	20.21	635,969	19.08
Total ...	1,425,305	21.90	1,386,797	20.90

19. Of the 1,552,528 deaths in the year, 829,330 were males and 723,198 females, giving ratios of 25.25 and 21.69 respectively per thousand of population. These rates are higher than any recorded in the periods marginally given. For every 1,000 females 1,146 males died, which is much higher than the English rate.

Mortality according to age.

20. The marginal statement gives the mortality according to age in the year under review, comparing it with that of 1886 and the quinquennium 1882-86. It will be seen that in comparison with 1886, there were higher rates at all the different age-periods except 60 years

	In 1887.		In 1886.		In 1882-86.		INCREASE OR DECREASE AS COMPARED WITH 1886.		INCREASE OR DECREASE AS COMPARED WITH 1882-86.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Under 1 year ...	227,017	145.40	206,914	138.11	173,800	111.81	20,167 I	12.29 I	53,217 I	33.59 I
1 year and under 5 years.	244,004	29.81	315,534	20.33	190,293	23.25	28,470 I	3.48 I	63,711 I	8.50 I
5-10 ...	133,846	13.50	120,127	12.11	116,290	11.73	13,719 I	1.39 I	17,556 I	1.77 I
10-15 ...	74,954	11.08	69,501	10.28	70,403	10.41	5,305 I	.80 I	4,544 I	.67 I
15-20 ...	76,478	15.01	70,089	14.08	71,842	14.29	4,790 I	.95 I	3,830 I	.72 I
20-30 ...	176,355	15.79	165,899	14.96	166,008	14.95	8,466 I	.83 I	9,347 I	.84 I
30-40 ...	166,551	17.43	158,424	18.58	158,529	18.59	8,127 I	.85 I	8,022 I	.84 I
40-50 ...	141,425	22.10	136,164	21.12	136,616	21.35	6,261 I	.98 I	4,809 I	.76 I
50-60 ...	124,191	31.75	120,111	30.71	119,928	30.66	4,080 I	1.04 I	4,263 I	1.09 I
60 years & above	189,707	50.93	192,893	51.79	183,083	49.15	3,186 D	.86 D	6,624 I	1.78 I

and above and higher than in any age-period of the quinquennium.

21. Mortality according to Class or Nationality.

	In 1887.		In 1886.		In 1882-86.		INCREASE OR DECREASE AS COMPARED WITH 1886.		INCREASE OR DECREASE AS COMPARED WITH 1882-86.	
	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
Christians ...	1,529	15.00	1,415	15.88	1,357	13.31	114 I	1.12 I	172 I	1.69 I
Hindus ...	1,006,375	25.42	844,699	21.99	895,744	20.85	81,631 I	1.43 I	110,631 I	2.57 I
Mahomedans ...	507,355	25.75	481,041	23.54	403,043	21.87	25,714 I	1.21 I	44,311 I	2.08 I
Budhists ...	1,195	14.96	1,064	13.34	908	11.58	181 I	1.64 I	287 I	2.60 I
Other classes ...	36,074	21.03	26,489	15.88	25,744	15.44	9,588 I	5.75 I	10,330 I	6.19 I

The marginal table exhibits this and contrasts it with 1886 and the quinquennium 1882-86. It will be observed that there is a steady rise in

the death-rates of all classes in 1887, comparing them with the other two periods, and that this rise is most remarkable among "other classes."

22. For the reasons stated in paragraph 12 the information under this head represents the mortality of only the first three quarters of 1887. During that period 408 deaths were recorded among non-Asiatics and mixed races of which 287 were males and 121 females. Of the total number of deaths 36 were caused by cholera, 1 by small-pox, 56 by fevers, 56 by bowel-complaints, 34 by injury, and 225 by other causes.

23. Vital statistics of Calcutta compared with those of Bengal Towns.

		Ratio per 1,000 of population.	
		In Calcutta.	In Bengal towns.
Births	...	18.36	19.35
Mortality from all causes	...	25.34	24.12
" Cholera	...	2.76	3.40
" Small-pox	...	.004	.18
" Fevers	...	7.50	10.45
" Bowel-complaints	...	2.76	3.48
" Injury	...	.54	.40
" Other causes	...	11.75	6.22

It will be learned from the marginal table that the difference of total mortality between Calcutta and other towns in Bengal amounts only to 1.22 per thousand of population; but while Suri only registers a rate of 5.47 from gross neglect of registration, Jehanabad 5.04, Baduria 7.62, Ranaghat 6.33, Kushtia 9.05, Sudharam 9.36, and so on, it is idle to institute any reliable comparison. The excess of fever

in mofussil towns and of casualties from "other causes" in Calcutta may be explained by the better diagnosis of death causes in the latter. A small-pox death-rate of .004 in Calcutta is creditable to the sanitary officers.

24. The statement in the margin exhibits the mortality among the natives occupying the nine cantonments in Bengal during the year under review. A population of 34,267 afforded 825 deaths, against 733 in 1886 out of 34,211 residents. The total death-rate (24.07) is higher, though those from cholera, small-pox, and other causes are lower. A cholera death-rate of 2.24 per millo, however, is too high, and indicates that the native quarters are capable of sanitary improvement.

Mortality of Natives in Cantonments.

NAMES OF CANTONMENTS.	RATIO OF DEATHS PER MILLE DURING—		Sickness.	Estimated population.	DEATHS DURING—		RATIO PER MILLE DURING—	
	1887.	1886.			1887.	1886.	1887.	1886.
Alipore	44.38	26.85	Cholera	34,267	77	89	2.24	2.60
Dinapore	32.99	20.77	Small-pox		...	1	...	.02
Dorunda	24.09	28.82	Fever		422	364	12.31	10.73
Cuttack	20.09	18.21	Bowel complaints		152	92	4.45	2.78
Fort William	18.08	20.68	Injury		17	15	.49	.43
Darjeeling	13.12	11.52	Other causes		157	172	4.58	5.03
Barrackpore	12.59	12.88	Total of all causes		825	733	24.07	21.42
Dum-Dum	11.80	13.07						
Buxa	9.64	10.08						

rate of 2.24 per millo, however, is too high, and indicates that the native quarters are capable of sanitary improvement.

25. During the year 1887 23,585 European seamen arrived in the port of Calcutta in 1,027 vessels, while 23,696 entered in 1886 in 1,036 vessels. The daily average number in port was 1,893, against 2,326 the year before.

PORT OF CALCUTTA.

Sickness and mortality among European Seamen.

Sickness and mortality are exhibited in the following table:—

1	2				3			
	In 1887.				In 1886.			
SICKNESS.	Admissions into hospitals.	Deaths.	Ratio per cent. of deaths to treated.	Ratio per 1,000 of population.	Admissions into hospitals.	Deaths.	Ratio per cent. of deaths to treated.	Ratio per 1,000 of population.
<i>In hospital.</i>								
Cholera	29	19	65.51	10.03	49	26	53.06	11.17
Diarrhoea	110	1	.9	.52	185	...	...	...
Dysentery	70	...	...	...	106	2	2.83	1.28
Fever, enteric	8	3	25.00	1.05	12	4	33.33	1.72
" malarious	220	1	.45	.52	321	3	.93	1.28
" simple	65	...	...	...	155	...	...	...
Scurvy	4	...	...	...	7	...	...	...
Small-pox	1	...	...	...	...	...	...	...
Sunstroke or heat apoplexy	5	1	20.00	.82	4	1	25.00	.43
Other diseases	1,201	11	.91	5.81	1,875	34	1.81	14.61
Total	1,719	35	2.03	18.16	2,714	71	2.61	30.52
<i>Out of hospital.</i>								
Cholera	...	...	...	...	...	1	...	.43
Dysentery	...	...	...	...	...	1	...	.43
Sunstroke	...	3	...	1.59	...	5	...	2.15
Fever, malarious	...	...	...	...	...	1	...	.43
Drowned in port	...	...	...	...	...	15	...	6.45
Other diseases	...	5	...	2.64	...	11	...	4.73
Total	...	8	...	4.22	...	34	...	14.62
GRAND TOTAL	1,719	43	2.08	22.71	2,714	105	2.61	45.14

Compared with 1886, there was a large reduction in admissions into hospital, a great reduction in deaths in hospital; and taking the figures of mortality

both in and out of hospital, the death-rate for 1887 is little more than half that of the previous year.

From the table below it will be found that out of the last six, 1887 was the most healthy year, and its cholera death-rate, 10·03 per mille of average strength, is lower than any other except that of 1885 (4·13). The Health Officer remarks that a higher health status of the town is followed by a similar condition in the port:—

YEARS.	Average strength.	RATIO PER MILLE OF AVERAGE STRENGTH.		
		Cholera.	Other diseases.	Total.
In 1887	1,893	10·03	8·45	18·4
In 1886	2,326	11·17	19·3	30·5
" 1885	1,693	4·13	19·4	23·6
" 1884	1,684	21·3	23·7	45·1
" 1883	1,860	19·8	23·6	43·5
" 1882	1,792	22·8	29·0	51·8

26. The number of deaths at sea of European seamen, according to the official logs, was 47, or a rate of 1·99 per 1,000 on number of arrivals, against 41 deaths and a rate of 1·73 in the preceding year. Of the 47 deaths, 21 were the result of drowning, 9 of other accidents, 4 of heat apoplexy, 1 of carbolic acid poisoning (accidental), 1 from suicide, and 11 from various other diseases.

Deaths of Europeans at sea.

27. To get an accurate estimate of the floating population of the port is a matter of some difficulty; but as far as possible corrected for the year, the Health Officer gives it at 25,630.

The table marginally given compares the sickness and mortality during the last two years, and is favourable to 1887. The cholera death-rate is the lowest recorded since the year 1881. The admissions to hospitals have increased, which is satisfactory, but it is not so to observe that of the 49 fatal cases of cholera, only 27 occurred in hospital, so that the probability is that 22 went without treatment.

1	2				3				4			
	IN 1887.				IN 1886.				DIFFERENCE.			
SICKNESS.	Total deaths among native floating population.	Ratio of deaths per 1,000 of population.	Number of native floating population who entered hospital.	Deaths among this number.	Total deaths among native floating population.	Ratio of deaths per 1,000 of population.	Number of native floating population who entered hospital.	Deaths among this number.	Total deaths among native floating population.	Ratio of deaths per 1,000 of population.	Number of native floating population who entered hospital.	Deaths among this number.
Cholera ...	49	1·99	27	13	59	2·32	37	23	10·0	36·0	10·0	9·0
Diarrhoea ...	1	·04	10	1	2	·07	1	1	1·0	·04	17	Equal
Dysentery ...	5	·20	6	3	9	·35	6	3	3·7	13·7	47	27
Fever, malarious ...	...	...	3	...	...	·03	10	...	1·0	·03	16·0	...
" simple ...	22	·88	17	4	15	·59	...	...	7·7	29·7	177	47
Small-pox ...	21	·84	120	6	23	·90	101	7	2·0	·08	40·7	1·0
Other causes ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	98	3·92	183	27	102	4·01	168	31	4·0	15·7	157	4·0

28. During 1887 31,420 lascars arrived and 32,640 left the port, against 29,595 arrivals and 28,994 departures in 1886.

Health and treatment of Lascar crews on foreign voyages.

There were 38 deaths at sea—33 in foreign-going and 5 in coasting vessels. Taking the average population afloat as 9,645, a death-rate is obtained of 4·04 per 1,000, as opposed to one of 3·56 in 1886. On four occasions only were complaints made by lascar crews regarding privations suffered on board-ship, but in only one instance was the complaint substantiated. In this instance the men received no vegetables when at sea, and compensation was awarded to them. The lascar crews therefore seem generally to have been well-treated.

29. From a study of the reports submitted by Civil Surgeons, Magistrates, Sub-divisional Officers, and Chairmen of Municipalities, and from an examination of the statistical

General Health of the Province.

returns, I gather that the 17 districts marginally noted had bad health during 1887, that in 13 others it was good, and in 15 average or fair. It will be observed among the districts which had bad health how many are included in the Rajshahye, Bhagulpore, Patna, and Chota Nagpore Divisions. The chief causes of unhealthiness were undue prevalence of cholera and fever. The highest mortality recorded in any

district (35.31 per mille) was in Monghyr, owing to the exertions made by Colonel Ramsay to obtain correct registration. The marginal table exhibits, so far as the Magistrate's reports supply the information, a statement regarding the agricultural outturn, prices of food-grains, and value of labour throughout the Province during the year. It contrasts unfavourably with the year before, and in Chota Nagpore Division the Civil Surgeon of Lohardugga notes the presence of scurvy among new admissions to jail, indicating that insufficiency of food was affecting the

Number of districts in which the agricultural outturn was—					Number of districts in which the prices of food-grains were—			Number of districts in which the value of labour was—		
Above average.	Good.	Fair.	Equal.	Below average.	Higher.	Lower.	Same.	Higher.	Lower.	Same.
1	8	3	9	14	15	11	16	2	...	39

people of that district. The unfavourable distribution of rainfall, very heavy in May and falling off suddenly in September and October, no doubt seriously affected the harvests.

• Prices generally did not rule higher in 1887 than in 1886, or the average

	Price per maund in 1887.			Average price of the three preceding years.			Difference in 1887.			Price per maund in 1886.			RAINFALL.	
	Rs. A. P.			Rs. A. P.			Rs. A. P.			Rs. A. P.			Inches.	Average of preceding years.
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Inches.	Inches.
Common rice ...	1	12	8	2	6	10	0	10	2D	2	1	3	60.05	64.65
Wheat ...	2	5	4	2	9	2	0	2	10D	3	15	3		
Pulses ...	2	0	8	2	7	2	0	0	7D	7	5	5		
Fish ...	6	14	8	7	4	1	0	5	5D	7	4	11		

1886, and the slight incidence of cholera among prisoners, even in districts where it was severely epidemic, reflects credit on the sanitary administration of these institutions.

of the three preceding years, *vide* marginal table; but till means of distribution are complete in all districts, local conditions of climate and rainfall affecting crops will always in limited areas react on the health-status of the people. The jail sickness and mortality compare favourably with that of

SECTION VI.

HISTORY OF THE CHIEF DISEASES.

CHOLERA.

30. The year 1887 will be remembered as one of very widespread prevalence and heavy mortality from cholera. The deaths were 172,578, against 118,368 in 1886, 139,869 in the quinquennium 1882-84, and 120,503 in the ten-year period 1877-86. The death-ratio in 1887 was 2·60 per 1,000 of population, a very heavy one, which is contrasted for the several periods above mentioned in the marginal table.

Prevalence and fatality of Cholera in the Province.

Ratio per 1,000 of population.			
In 1887.	In 1886.	In quinquennium 1882-86.	In decade 1877-86.
2·60	1·78	2·11	1·82

The disease prevailed epidemically in 88 registering circles, severely in 73, with slight severity in 466, and was absent from 18. Its incidence in 1886 was epidemic in 72 circles, severe in 73, with slight severity in 457, and absent in 43.

The number of villages attacked in 1887 was 23,894, against 21,567 in 1886, giving percentages of 10·30 in 1887 and 9·33 in 1886 of all the villages in the Province, or an increase of ·97 per cent. for the year under review.

31. In towns the deaths numbered 8,215, against 9,935 in 1886, and the former is a smaller number than in any period marginally given, but the death-ratio in 1887 of 3·40 is higher than the rural rate 2·75, or of any previous average rural rate of periods the registration of which was approximate to the truth. The deaths in rural areas rose to the large number of 164,363, giving a death-rate of 2·75, which is the highest of any period with which it is marginally contrasted.

Comparative mortality from Cholera in the urban and rural circles.

	Deaths from cholera—				Ratio per 1,000 of population.			
	In 1887.	In 1886.	In 1882-86.	In 1877-86.	In 1887.	In 1886.	In 1882-86.	In 1877-86.
Urban ...	8,215	9,935	10,412	9,323	3·40	4·15	4·32	3·82
Rural ...	164,363	108,483	129,458	111,299	2·75	1·79	2·03	1·74

Districts which suffered most from Cholera.

Districts.	Ratio per mille.	Districts.	Ratio per mille.
Puri ...	9·75	Balasore ...	4·60
Gya ...	8·05	24-Pergunahs ...	3·56
Chumparun ...	7·50	Sarun ...	3·46
Shahabad ...	7·15	Monghyr ...	3·45
Lohardugga ...	5·82	Faridpur ...	3·20
Backerganj ...	4·67	Patna ...	3·01

33. The table given in the marginally given, but the death-ratio in 1887 of 3·40 is higher than the rural rate 2·75, or of any previous average rural rate of periods the registration of which was approximate to the truth. The deaths in rural areas rose to the large number of 164,363, giving a death-rate of 2·75, which is the highest of any period with which it is marginally contrasted.

Seasonal incidence of Cholera in the entire Province.

Months.	Deaths in 1887.	Rainfall in 1887.	Deaths in 1882-86.
January ...	16,662	1·50	8,424
February ...	5,804	·04	5,815
March ...	8,024	2·63	10,877
April ...	21,068	1·27	21,075
May ...	32,435	8·49	18,209
June ...	21,188	11·12	12,043
July ...	30,566	11·50	10,228
August ...	19,268	11·50	11,000
September ...	5,761	7·93	6,971
October ...	2,948	3·51	7,404
November ...	2,748	·56	12,114
December ...	5,208	·0002	15,709

favourably with those of the quinquennium 1882-86. The heavy loss of life in May, June, July, and August illustrates the special incidence of the disease in

32. The marginal table exhibits the 12 districts in the Province which had exceptionally high mortality, against nine in the previous year. Of the 45 districts in the Province, 22 had higher casualty rates and 23 lower than in 1886.

ws that the year began with a very heavy mortality in January, a continuance of the severe winter outbreak of the year before, which continued with marked diminution in February and March, succeeded by the usual seasonal rise in April, which was followed by maximum severity up to August, when the disease coincident with heavy rain abated. The deaths in September, October, November, and December compare very

Behar and Orissa, only with an earlier commencement than usual, and great aggravation following the cyclonic storm of the 25th, 26th, and 27th May, during which the barometer registered as low as 27·522° on the 26th at Hazaribagh. The comparative immunity of the later months indicates the slight prevalence of the disease in Lower Bengal.

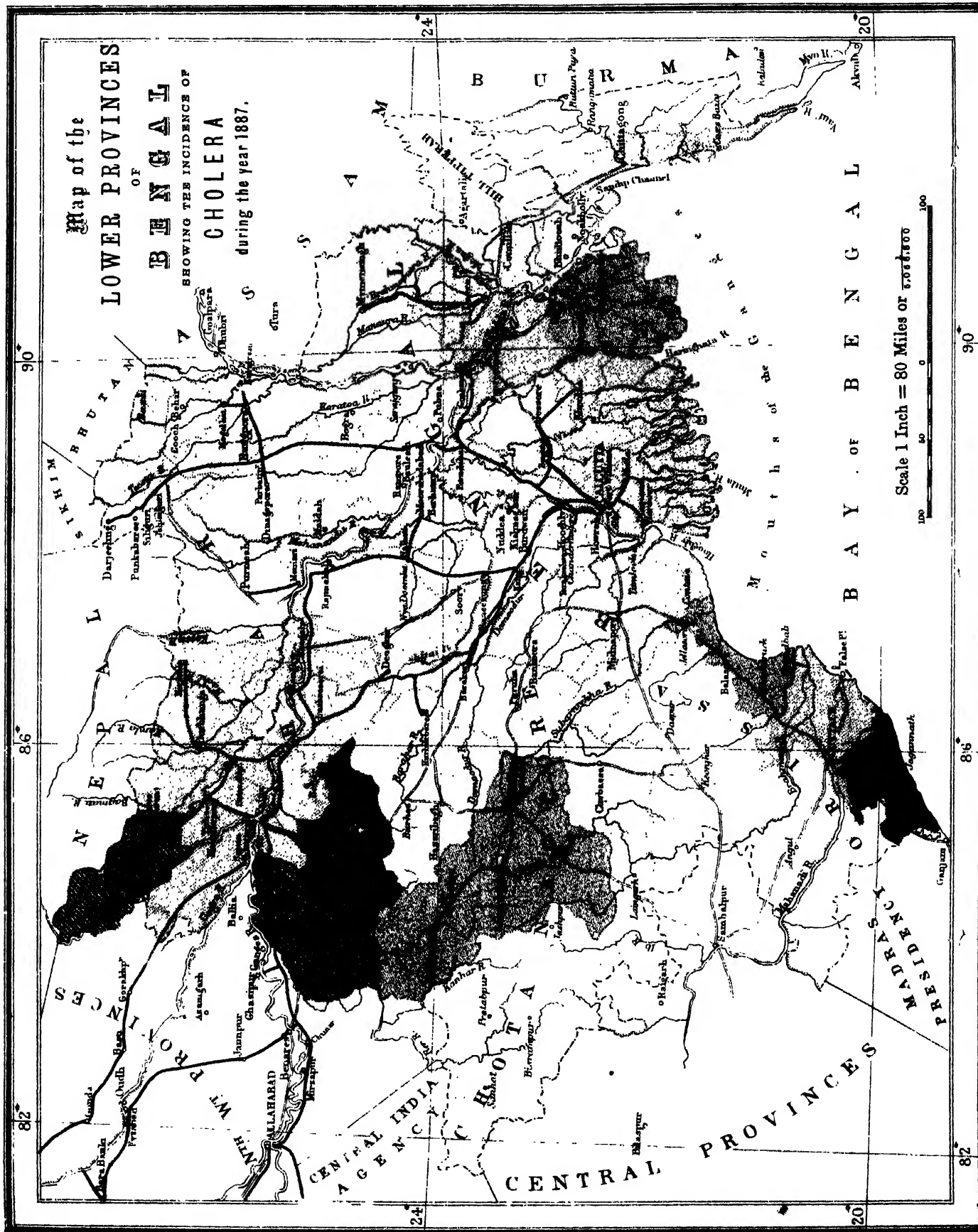
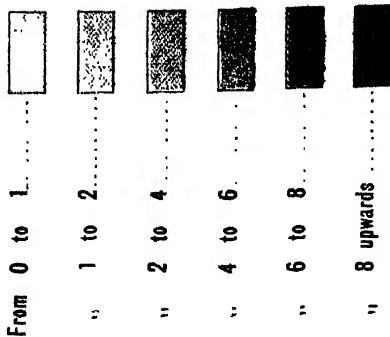
34. In accordance with Government order No. 2328 of the 10th August 1886, a table of meteorological conditions is given below during the prevalence of cholera at Motihari in Chumparun district, and at Buxar, Dehri, and Arrah, three towns in the district of Shahabad:—

LOCALITY.	PERIOD.	Rainfall in inches, average calculated on the days of period.	TEMPERATURE OF AIR			Mean of daily air moisture, 100° being saturation.	WIND.		Total of cholera deaths recorded.	Daily average of cholera deaths.
			Mean of daily maxima.	Mean of daily minima.	Range.		Direction.	Mean velocity, miles per diem.		
MOTIHARI TOWN IN CHUMPARUN.	<i>Accession.</i>									
	30 days, from 1st to 30th April 1887 ...	·03	93·4	67·2	26·2	46°	S and SE ... 11 days E, ESE ... 15 " W, NE, ENE ... 4 "	170·7	43	1·4
	<i>Culmination.</i>									
	61 days, from 1st May to 30th June 1887.	·20	93·6	70·5	17·1	48°	SE, ESE, SSE ... 45 " E ... 8 " W, SSW, WNW ... 8 "	201·9	91	1·4
NOS 1 AND 2 WARDS, OF BUXAR TOWN IN SHAHABAD.	<i>Decline.</i>									
	31 days, from 1st to 31st July 1887 ...	·26	92·0	78·0	13·3	56°	Calm ... 1 day SE, ESE, SSE ... 10 days S, SW, SSW ... 11 "	223·3	12	·4
	<i>Accession.</i>									
	9 days of April ...	·04	96·3	67·7	28·6	89·5	W, N ... 3 days NW, WNW ... 4 " SE, NNE ... 2 "	128·0	10	1·1
DEHRI TOWN IN SHAHABAD.	<i>Culmination.</i>									
	13 days, 3 days of May, 3 days of June, 7 days of July.	·06	94·2	79·1	15·1	90·0	Calm ... 1 day E, NE ... 6 days S, W, WNW ... 6 "	249·0	18	1·4
	<i>Decline.</i>									
	5 days, 3 days of July, 1 day of August and 1 day of October.	·40	87·6	76·7	10·8	84·0	E ... 2 " W ... 2 " NW ... 1 day	170·4	7	1·4
DEHRI TOWN IN SHAHABAD.	<i>Accession.</i>									
	10 days of May ...	·88	96·0	78·9	17·1	Data not furnished.	S ... 6 days N ... 1 day NNW ... 3 days	127·8	12	1·2
	<i>Culmination.</i>						SW, SSW, NW, WNW 13 " S, SE, SSE, ESE ... 6 " W, S, E ... 8 "	202·0	56	2·0
	<i>Decline.</i>						W, SSW ... 4 " S, SE ... 3 " E, ESE ... 3 "	180·8	15	1·5
ARRAH TOWN IN SHAHABAD.	<i>Accession.</i>									
	61 days of May and June ...	·37	96·9	79·1	17·8	Data not furnished.	Calm ... 2 days E, SE, ESE ... 39 " W, S, NW, SW ... 20 "	118·6	5	·08
	<i>Culmination.</i>						Calm ... 1 day E, SE, ESE ... 44 days W, S, SW, WSW ... 15 "	103·6	204	3·29
	<i>Decline.</i>						Calm ... 3 " ESE, ESE ... 29 " W, SW, NW, WNW ... 29 "	61·3	23	·37
	61 days of September and October ...	·15	89·4	73·1	16·3					

An examination of the tables submitted for each separate town does not enable me to absolutely lay down any law connecting rainfall with increase or otherwise of deaths and the periods of accession, culmination, and decline failing to correspond as to months there is necessarily variation in rainfall. The prevalence of east and south winds is very marked, even in April and May, when they are as a rule replaced by burning west winds, and the velocity is generally lower during the time when cholera was becoming epidemic. At the times of accession there is generally high temperature and wide daily range. During culmination the mean daily maximum is lower, the mean daily minimum higher, and consequently a smaller range of temperature, while during decline of mortality there is a further lowering of maximum temperature and a less range, except when the disease continued into October, when the advent of the cold season proved a disturbing element. The data for humidity are insufficient.

Map of the LOWER PROVINCES OF BENGAL SHOWING THE INCIDENCE OF CHOLERA during the year 1887.

Districts in which the number of deaths
from Cholera per one thousand of the
population ranged—



Scale 1 Inch = 80 Miles or 128 Kilometers

35. A cholera map of the Province of Bengal, illustrating its distribution during the year 1887, forms appendix No. II, attached to this report. The map has been prepared according to the latest received instructions, and presents the death-ratio by registering circles instead of as in reports before 1886, by sub-divisions. This is a cumbrous map with complicated illustrative statement, and both might without detriment be omitted from future reports, being replaced by the coloured map now introduced for the first time, and which faces this page. Much of the information afforded by the statement referred to above will be found more conveniently in appendix VI.

Cholera prevalence as delineated by the cholera map.

36. There was very slight incidence of cholera at fairs or festivals during the year, the great majority escaping entirely. Most of the great fairs, as those in the Sarun, Dinajpur and Dacca districts, were free from the disease; but at Ruffiganj *mêla* in the Gya district in April the disease broke out, and the mortality was considerable. It appeared also at Tetulbaria in the Backerganj district, and in consequence the fair was at once closed. At Gunga Sagur in the 24-Porgunnahs there were 11 cases and two deaths only, and three deaths at Kapilmory in Khulna district. At the gathering of opium cultivators in April at Motihari cholera showed itself first among people from the Nepal Terai, and afterwards broke out in the town. The want of proper shelter and arrangements for the large numbers who assemble were rendered more evident this year by rain occurring at the time. A few cases of cholera are reported from cooly depôts, but no outbreaks of importance—except 16 deaths in two cooly depôts at Ranigunj. Sanitary arrangements were made at all the fairs of importance, but in most cases were considered unnecessary.

Cholera at fairs.

37. Pilgrims are reported as generally exempt from cholera, except in the Gya, Puri, Balasore, Cuttack and Midnapore districts. No less than 197 deaths from cholera occurred in the lodging-houses in Gya and 171 during the Car festival at Puri, and there was considerable mortality in Puri on the various roads to Jagannath, and in the Midnapore district during the return from the Car festival in July. There is no accurate record; however, of mortality when the pilgrims are travelling, but the matter of their housing, feeding, and medical treatment has been attracting attention in the three Orissa districts, and good results will no doubt follow. In the Cuttack district it is proposed to place the proceeds of the Jagannath Road Fund at the disposal of the District Board for sanitary improvement along the Grand Trunk Road. In the Puri district, besides hospitals at Puri, Khurda, Pipli and Baliana, two temporary hospitals were placed at Satyabadi and Atharanala. In the Balasore district, 19 sweepers have been placed on the Grand Trunk Road under a Sanitary Inspector for cleaning rest-houses. Food and water-supply will also be looked to. This establishment will be paid from the Jagannath Road Fund. A pilgrim hospital is under construction at Chandbali, where such a large number of pilgrims arrive by steamers from Calcutta. During 1887, however, fewer came from the unfortunate accidents to the steamers *Sir John Lawrence* and *Mahratta*.

Cholera among pilgrims.

38. Although cholera in 1887 over the whole province exceeded in severity the average of former years, only 59,717 deaths were recorded in Bengal proper in 1887, against 76,144 in 1886, and an average of 80,356 in the lustrum 1882—86. The ratio in 1887 is 1.70 per 1,000 of population, while 1886 afforded one of 2.17 and the lustrum one of 2.29. No less than 2,857 fewer villages were affected than in the year before. The marginal table giving deaths and rainfall presents no very unusual features, except that the aggregate of November and December is about a fifth of that of the same months in 1886.

BENGAL.

39. **BURDWAN DIVISION.**—There were 7,312 deaths recorded under this head during the year. This, with the census population of 1881, 7,393,954, gives a death-rate of

Months.	Deaths.	Rainfall.	Months.	Deaths.	Rainfall.
January ...	14,765	1.42	July ...	1,350	12.67
February ...	5,101	.07	August ...	1,000	12.06
March ...	6,170	4.04	September ...	477	8.68
April ...	14,819	1.69	October ...	609	3.61
May ...	8,119	8.78	November ...	1,394	.87
June ...	1,353	18.56	December ...	4,060	.0004

Incidence of Cholera in the Burdwan Division.

0·98 per mille, but if the population be estimated as it may at 8,078,475, the ratio would be 0·91. The deaths in 1886 were 9,748 with a rate per 1,000 of 1·31 on the census population. Cholera was reported from every registering circle (96) in the division, and of the 31,449 villages 5·78 per cent. were affected, a decrease from the previous year of 1·20 per cent. There was a decrease in the year 1887, in the death-rates of every district in comparison with those of the year before, and in every district in the division, except Midnapore, compared with the district rates of the five-year period 1882—86. The districts which suffered most severely were Howrah (1·95), Midnapore (1·55), and Hooghly and Serampore (·91). In the Burdwan district there is nothing recorded of any special interest concerning the disease. It prevailed most severely in the town and thana of Burdwan, and after these areas in thanas Rayna, Katgram and Ranigunj. An outbreak in thana Khondghose attracted attention, and medical aid was given. The bad sanitary condition of the town of Ranigunj no doubt affords a favourable breeding-ground for cholera, owing to most unfortunate neglect of duty by the Municipal Commissioners. This has been followed by most regrettable results in the current year, cholera having appeared in the cooly depôts, whence it has been transmitted through Northern Bengal, and even, I believe, to Upper Assam, attended by much loss of life. In the Birbhum district only 368 deaths are recorded in the year, Suri town only returning one death—a marvellous result considering the insanitary state of the town, which before long will, I fear, be followed by its natural result. In the Bankura district most deaths occurred in July and August, but the disease was not epidemic. In Hughli and Serampore also it was not epidemic, but in Serampore town there was an outbreak ascribed to the use of bad water. The village of Rishra in Serampore, so often mentioned in previous reports as specially affected, escaped in 1887, it is said, from having been supplied with good water. In the Midnapore district, cholera was present throughout the year, in every month, and not one of the registering circles escaped; still the total mortality was less than in 1886. Contai sub-division seems to have suffered the most, but smart outbreaks occurred in places—one in July in Midnapore town when 43 deaths were noted, of which the Civil Surgeon found only 25 registered. It was, he says, clearly due to importation by pilgrims, who suffered badly on their return journey from the Car festival at Puri. Among them 18 perished at Midnapore, 5 at Garbeta, 9 at Dantun, 5 at Belda, 6 at Narainpurh, 10 at Debra, besides many more at different halting places and on the roads. The Howrah district registered 160 fewer deaths from cholera than in 1886, and the mortality was less in Howrah town.

40. **PRESIDENCY DIVISION.**—In the Presidency Division there were 16,167 deaths from cholera, which yield from the census population of 1881 (7,771,693) a death-rate of 2·08 per mille. If the population, however, be more fairly estimated at 8,141,438, the rate would be 1·98. These figures compare favourably with 1886, or with the five-year period 1882-86. In each period only one district had a larger death-rate—Khulna in the former (·51) and 24-Pergunnahs in the latter (·11). Of the 127 registering circles in the Division, all except two, and of the 19,944 villages 15·11 per cent., were visited by the disease. The death-rate of the 24-Pergunnahs (3·56) is a high one, but this district may be looked upon as the great cholera centre of India, its numerous towns being in very bad sanitary condition. The Diamond Harbour sub-division suffered most. The Suburbs of Calcutta maintain with little diminution their sad pre-eminence of being annually scourged by cholera, the death-rate being 8·31, against a mean ratio of 8·58 for the previous five years. Even favourable climatic conditions bring little relief to this horribly dirty town. The Nuddea district has escaped in the year under review with a much lighter affliction than in any of the previous six years—*vide* marginal table.

Nuddea in 1887...	1·66
Ditto 1882...	5·46
Ditto 1883...	4·69

Nuddea in 1884...	5·79
Ditto 1885...	4·25
Ditto 1886...	4·26

41. **RAJSHAHYE DIVISION.**—The number of cholera deaths recorded in the Rajshahye Division were 7,576, giving a death-rate of ·97 per mille of the census population of 1881—7,734,733. If the population be

Incidence of Cholera in the Rajshahye Division.

estimated at 8,000,766, the rate will be reduced to .94. Of the 82 registering circles in the Division 5 escaped, but only 3.86 per cent. of 29,068 villages recorded deaths from cholera. In 1886 13,574 persons fell victims to cholera, or at the rate of 1.75 per 1,000 of census population, so that 1887 was a year of minor prevalence compared with the year before or with the quinquennium 1882-86. Julpaiguri (2.15) and Rangpur (1.89) were the two districts of the seven constituting the Division which suffered at all severely. In the former a very severe outbreak occurred in April, May, and June in the tea-gardens in the Bhutan Duars, east of the Jaldakha river. It was investigated by the Deputy Sanitary Commissioner of the circle, and a report submitted to Government on the subject. The registration of deaths in the Duars has never been properly provided for, and the real loss of life attending this epidemic outbreak cannot be stated. In Rangpur cholera appeared in epidemic form in three localities—in the Nelphamari sub-division in the north, in the Ulipur Sub-division in the east of the district, and in Nisbetgungo thana in which stands the civil head-quarters. The Civil Surgeon after inspection recommended remedial measures, of which digging of new wells—an inexpensive proceeding in the district—was one. The cause of these localised appearances of cholera is obscure, and was attributed in Ulipur to the Chilmari fair, but this the Magistrate thinks a mistake. The last two years have been the worst for Rangpur since the year 1878. In Pubna the disease was general, but active only in April, and in Dinajpur only one occurrence is noted—an outbreak among the coolies employed on the works of the Assam-Bihar Railway.

42. **DACCA DIVISION.**—In the Dacca Division there were 23,822 deaths, with a ratio, from the 1881 census population (8,700,939), of 2.73, against 23,975 deaths in 1886, with a death-rate of 2.75. So that there was little difference in mortality in the two years, but the rate for 1887 is higher than that of the lustrum 1882-86 by .19. If the population be estimated at 9,650,167, the rate for the year under review would be 2.46 per 1,000. Of the 63 registering circles, deaths were reported from all and from 15.88 per cent. of the 29,109 villages in the Division. The death-rates of the different districts and the total of the Division and percentages of villages attacked, compared with those of 1886 and the quinquennium 1882-86 are presented in the marginal table. Backerganj district (4.67) suffered very severely, Faridpur and Dacca severely, and Mymensingh with much diminished intensity. April was the month of highest prevalence, and the November and December incidence of the disease was unusually mild.

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Dacca	22.19	7.60 D	3.74	.27 D	.26 I
Faridpur	17.26	8.09 D	3.20	1.83 D	.07 D
Backergunge ...	28.85	4.11 I	4.67	3.08 I	1.63 I
Mymensingh ...	9.17	1.14 I	1.28	1.08 D	.60 D
Total	15.88	1.02 D	2.73	.02 D	.19 I

(4.67) suffered very severely, Faridpur and Dacca severely, and Mymensingh with much diminished intensity. April was the month of highest prevalence, and the November and December incidence of the disease was unusually mild.

43. **CHITTAGONG DIVISION.**—The census population of this Division in 1881 was 3,472,451, and the number of deaths in 1887 was 4,840, giving from the above enumeration a death-rate of 1.39. Estimating the population at 3,547,172, the rate would be 1.36. Although cholera did not generally prevail with marked severity, still the year under review records higher figures than 1886, when the deaths were 3,634—rate 1.04 per 1,000, an increase of .35. The rate was also higher than in the quinquennium 1882-86 by .04. Villages to the number of 1,010 afforded deaths in 1887, out of the 10,499 villages in the Division giving a percentage of affected of 9.61, an increase of .47 per cent. over 1886. All the 37 registering circles recorded deaths. The Tipperah district suffered most (1.95), the disease continuing prevalent from the year before. It caused most mortality in Noakhali in the month of April, but in both these districts, as in the Dacca Division, there was no winter exacerbation. In the Chittagong district, however, the conduct of the disease was different. It was very severe in the Cox's Bazar sub-division in April and May, continued throughout the rains, and had a winter rise in November and December.

BEHAR.

44. In this great Division of the Province there were 84,530 deaths from cholera in a population numbered in 1881 at 23,127,104. During the year before there were 25,709 deaths, and the average of the quinquennium 1882-86 is 41,415. The mortality in 1887 therefore greatly exceeded that of 1886, and was more than double the average of the five years stated. The death-rate per 1,000 of the above population was 3·65, against 1·11 in 1886 and 1·79 in the quinquennium 1882-86. Estimating the population for the progressive increase since 1881 at 25,433,975, the death-rate for 1887 would be 3·32 per 1,000. Cholera attacked 7,769 villages, against 3,254 in 1886, giving percentages of villages of 11·70 and 4·91 respectively, an increase of 6·79. Of the 149 registering circles, only one, in Monghyr, was reported as having given no cholera deaths.

The marginal table illustrates the incidence of the disease in 1887 in the

Incidence of Cholera in the East and West Behar Divisions.

WEST BEHAR.						EAST BEHAR.					
DISTRICTS.	Percentage of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.	DISTRICTS.	Percentage of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Patna ...	18·40	12·29 I	3·01	1·19 I	1·20 I	Monghyr ...	18·46	12·24 I	3·45	3·07 I	1·99 I
Gya ...	23·07	24·11 I	5·05	5·83 I	5·93 I	Bhagulpore ...	12·39	7·96 I	2·17	1·63 I	·38 I
Shahabad ...	17·65	10·38 I	7·15	4·03 I	4·88 I	Purneah ...	4·27	8·88 D	·85	·49 D	·77 D
Mozufferpore ...	13·42	7·03 I	2·78	1·98 I	·43 I	Maldah ...	5·72	3·70 I	1·07	·89 I	1·13 D
Burhanga ...	6·13	1·09 I	2·27	1·27 I	·48 I	Sonthal Per- gunnahs ...	1·13	·59 I	·40	·24 I	·91 D
Sarun ...	17·69	11·34 I	5·46	2·58 I	2·30 I						
Chumparun ...	10·75	9·88 I	7·60	6·95 I	6·84 I						
Total ...	15·18	9·48 I	4·67	3·28 I	2·79 I	Total ...	6·00	2·36 I	1·74	1·16 I	·13 I

and of the lustrum 1882-86. It will be seen that in East Behar the death-rate (1·74) exceeded that of 1886 by 1·16 and of the quinquennium by ·13. In only one district did the mortality of 1886 exceed that of the year under review, but the five-year period has heavier mortality in three districts. In this Division Monghyr (3·45) and Bhagulpore (2·17) suffered severely. When we come to consider the figures of the Patna Division, however, it will be seen with what unusual severity the disease pressed upon the population, the death-rate (4·67) far surpassing that of 1886 and of the quinquennium 1882-86. Gya, Chumparun, and Shahabad exhibit ratios disclosing severe epidemic intensity. Cholera in these divisions was registered in every month of the year, Shahabad and Purneah showing considerable mortality in January for the cold season of Behar, but it began to increase rapidly in April, was worse in May, keeping a high level of mortality through June, July, and August, declining very considerably in September, and continuing with greatly diminished severity to the end of the year. This very startling and widespread epidemic attracted attention in April in the northern parts of Purneah, Bhagulpore, Monghyr, and Chumparun and in May, June, July, and August was epidemic throughout West Behar. In East Behar, the Sonthal Pergunnahs, Purneah, and Maldah were least afflicted, though they did not escape from severe local outbreaks. I have before noticed that associated with the appearance of this epidemic peculiar atmospheric conditions were noticed by local observers, such as absence of the usual west winds, replaced by damp winds from the east, and a heavy downpour of rain in the end of May brought up by a cyclonic storm from the Bay of Bengal. I subjoin a few particulars concerning the prevalence of cholera in several of the districts.

45. **BHAGULPORE DIVISION.**—The districts of this Division which suffered most are marginally noted. The Civil Surgeon of Monghyr has described the progress of the disease in his district as beginning in the north-east in March, travelling westwards north of the Ganges, being worst in Gogri, Khatoria, and Bucktiarpur thanas, crossing the river to the south in July, affecting

Incidence of Cholera in the
Bhagulpore Division.

Monghyr ... 3·45
Bhagulpore ... 2·17
Maldah ... 1·07

the western thanas, and gradually working its way back to the south-east of the district. It reached its maximum in May. The three towns in the district had no exemption, Monghyr registering 122 deaths (rate 2·12), Jamalpur only 19 deaths (rate 1·40), but Shukpura 132 deaths (rate 10·54). In the Bhagulpore district there were about four times as many deaths in 1887 as in 1886, and an increase in all circles except the town of Bhagulpore, which generally suffers badly. The opening and extension of the water-works will no doubt lead to future greater exemption. In the Maldah and Purneah districts nothing worthy of note is recorded, but in the Sonthal Pergunnahs district cholera was very severe in the Sahebganj town, carrying off 12·04 per 1,000 of population, and in Deoghur 4·24 per 1,000 died, pilgrims from Benares falling victims among others.

46 **PATNA DIVISION.**—Cholera was epidemic in the Patna district, death-rate 3·01, one much in excess of the year before or of the preceding five-year period. It was worst in Silao thana (7·72), Islampore (6·76), Dinapore (6·63). The Behar sub-division suffered much, and the disease attacked all the towns in the district, including Dinapore Cantonment and Khagoul. Gya district is pre-eminent in the Province for having yielded the highest cholera death-rate—8·05 per mille in the Province during the year under review. The disease was present throughout the year, but was most severe in May, June, July, and August. July being the month of maximum intensity, when 5,294 deaths were recorded. There were outbreaks of the disease in the town of Gya in March, April and July, and altogether 668 persons perished, or at the rate of 8·78 per 1,000 of population. Sanitary improvement is greatly needed here, but I am not sanguine that anything adequate will in the near future be carried out under the present system of municipal government. In the Shahabad district also there was a severe epidemic of cholera. It continued during every month of the year, December, however, only giving one fatal case. The behaviour of the disease was as in the Gya district, May, June, July, and August being the months of heaviest loss of life: July especially so, 6,132 people dying. All the towns in the district were affected. Local enquiries made by the Civil Surgeon point to insanitary conditions as originating or causing the epidemic. He says:—"For all there is the same tale to relate: foul wells, foul tanks, human and animal ordure everywhere, damp houses, damp surroundings, and neglect of the first principles of sanitation." Altogether, 14,067 deaths are recorded, more than twice as many as in 1886, and there is no record of any epidemic of such severity before. In the Durbungha district cholera was less prevalent than in any district of West Behar, but was more severe than any year since 1883, except 1885. The total mortality was 5,994, with a death-rate of 2·27 per 1,000 of population. June was the worst month with 1,510 deaths, but heavy rain in July and August—25½ inches—was followed by a decline of the disease as is generally the case in Lower Bengal. Of the total deaths, 3,504 occurred in the Madhubani sub-division, which seems very liable to cholera visitations. Medical aid was given. The town of Durbungha, described as "a low-lying, dirty, insanitary town, made up exclusively of ditches, tanks, and bunds, and periodically water-logged," had 253 deaths, a rate of 3·82 per mille. A scheme of drainage is under preparation. The district of Mozufferpore reports 7,186 deaths from cholera during the year, yielding a death-rate of 2·78 per 1,000 of population. Hajipur and Sitamurhi were the localities which suffered most, and the towns did not escape. Registration, however, is so imperfect in this district that it offers no useful comparison with others south of the Ganges, where registration receives better attention. In the Sarun district 7,894 deaths with a death-ratio of 3·46 were recorded. This is the heaviest death-roll of any year of which we have information. July and August were the worst months, but deaths were reported every month of the year, and the disease was very wide-spread. It was most virulent in Sewan, in the municipality and rural circle—the former having a death-rate of 5·63, and in Revelgunj town, where the people perished at the rate of 4·24 per mille. Chupra town escaped with a milder incidence of the disease. The great cholera outbreak in the Chumparun district, resulting in the loss of 12,929 lives, or at a rate of 7·50 per 1,000 of population, attracted attention at an unusually early part of the year, being prevalent in April and

severely epidemic during May, the worst month of the year, and June, with a sudden fall in July, and continued minor prevalence till complete disappearance in December. This course is a most unusual one, the months of heavy rainfall being those generally of greatest mortality. The places which suffered most were Motihari town 147 deaths—death-rate 14·26, Adapore thana 1,768 deaths—death-rate 12·72, Bagaha thana 1,411 deaths—death-rate 10·01, Hardi thana 1,816 deaths—death-rate 9·46 per mille. Bettiah town 125 deaths—death-rate 5·87. During April and May, however, there was an assembly of opium cultivators in Motihari, often numbering as many as 10,000 at a time, among whom the disease appeared. This swells the death-rate inordinately, but the ratios given above for rural areas shows how severely the disease pressed upon the people. Thana Madhuban had only eight deaths, the only one which escaped epidemic prevalence. The Deputy Sanitary Commissioner of the Behar Circle visited the district, and under orders of Government so did I in the end of August, and my report on the subject was submitted to Government on 7th October 1887. This is the severest epidemic of which the history is known, and was preceded by two years of unusual rainfall, was associated with a very plentiful fruit crop, and with early rainfall and an absence of west winds. The insanitary conditions disclosed in the towns and villages, the bad and polluted water, imperfect drainage, and absence of village cleansing are mentioned in my report. The economic condition of many of the poorer classes contrasted unfavourably with that of districts in Lower Bengal, the people appearing to be both poorly fed and clad. Medical aid was given, but the people did not avail themselves much of the benefit of English drugs.

ORISSA.

47. The marginal table shows that cholera was more fatal in Orissa in 1887 than in the earlier periods with which the year is contrasted.

Incidence of Cholera in the Orissa Division.

Deaths from cholera in—			Ratio per 1,000 of population—			Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
1887.	1886.	1882-86.	1887.	1886.	1882-86.		
17,092	15,175	15,177	4·87	4·16	4·19	·69 I	·69 I

There were 17,692 deaths among a population of 3,628,832 according to the census of 1881. These give a death-rate of 4·87 per 1,000, a higher ratio than that of the districts of West Behar. If we estimate the population as 4,105,838, the rate would be 4·30. Out of a total number of 20,763 villages, 3,683 were affected, or 17·74 per cent., against 3,651 and 17·83 per cent. in 1886. None of the 29 registering circles were free from the disease. A considerable incidence of the disease in the colder months assembles the usual course of events in Lower Bengal, but the high prevalence of June, July, and August assimilates to the state of matters found in Behar. July was the month of highest prevalence, corresponding to the influx of pilgrims to the Rajjathra festival at Jagannath.

Of the three districts making up the Orissa Division, Cuttack suffered the least, or at a rate of 2·60 per 1,000, a decrease in comparison with the year 1886 or the lustrum 1882-86. The thanas most affected were—Aul (571 deaths), Cuttack, rural (661), Dharamsala (600), Salipur (572), and Banki (505). Cuttack and Dharamsala were, according to the Civil Surgeon, influenced by the passage of pilgrims. Several sanitary improvements are proposed on the pilgrim routes. It is intended to extend the Puri Lodging-house Act along the main line of road, and to allot to the Sanitary Committee of the Local Board funds for conservancy at principal halting places. Funds bequeathed for rest-houses will be used for local improvements, and specially for wells. Bodies will be removed from roads, and a cart placed at each chatti for removal of rubbish. The Puri district had a cholera mortality of 8,668 and a death-rate of 9·75, the highest in the Province. This rate, when contrasted with the periods marginally shown, illustrates how severe the incidence of the disease was.

1887.		1886.		1882-86.	
Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
8,668	9·75	3,813	4·29	3,433	3·88

The Khurda sub-division, as well as Puri, had epidemic prevalence. June and July were the worst months. Much attention was paid to curative and preventive measures, and proposals similar to those of the Cuttack district are recommended

along the Grand Trunk Road. In the Balasore district there was more cholera than in 1886, but a decrease in comparison with the five-year period 1882-86. Bhudruck was the place at which it attracted most attention.

CHOTA NAGPORE.

48. Altogether 10,639 deaths from cholera are reported from this division, with a death-rate from census population of 4,334,178, of 2·45 per 1,000, against 1,340 deaths in 1886—rate ·30 per 1,000; or an average of 2,921 deaths in the 1882-86 quinquennium—rate ·67. There are 24,761 villages and 851 afforded deaths, or at the rate of 3·43 per cent. This is higher than in either of the periods given in the marginal table. Of the 62 registering circles, 52 were affected. June, July, August and September were the months of highest prevalence, August

Deaths from cholera in—			Ratio per 1,000 of population in—			Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
1887.	1886.	1882-86.	1887.	1886.	1882-86.		
10,639	1,340	2,921	2·45	·30	·67	2·15 I	1·78 I

exhibiting highest mortality. In only one district of the Division was the disease epidemic,—in Lohardugga, which had the high death-rate of 5·82. The relative severity of the disease in the four districts constituting the Chota

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Hazaribagh	1·50	1·21 I	·81	·73 I	·26 D
Lohardugga	8·30	6·62 I	5·82	5·76 I	5·40 I
Singbhoon	1·03	·97 I	·27	·25 I	·08 I
Manbhoom	·83	·04 I	·10	·06 I	·82 D
Total ...	3·43	2·54 I	2·45	2·15 I	1·78 I

Nagpore Division is exhibited in the marginal table, and the only noticeable feature concerning cholera in Hazaribagh district was that, as in Lohardugga, it was worse in the north-west of the district in places approaching the Gya and Shahabad districts, where, as before shown, it existed in epidemic form. The thanas which suffered most in the Lohardugga district were:—Lohardugga, Daltongunj, Hosainabad, and Gurwa.

49. The facts connected with cholera among European seamen are disclosed

Cholera in the Port of Calcutta.

Admission into hospital in—		Deaths among this number in—		Ratio per 1,000 of population in—		Average strength of seamen in—					Ratio per mille.				
1887.	1886.	1887.	1886.	1887.	1886.	1887.	1882.	1883.	1884.	1885.	1886.	1887.	1882.	1883.	1884.
29	49	19	26	10·03	11·17	1,893	1,792	1,860	1,084	1,093	2,326	10·03	22·8	19·8	21·3

in the table in the margin, and compare favourably with any year except 1885. No deaths are recorded out of hospital from this cause. Among the Native floating population there were 49 deaths, against 59 in 1886, giving death-rates of 1·96 and 2·32 respectively of estimated population.

SMALL-POX.

50. The record of small-pox goes on contracting, year by year, with fair steadiness, and 1887 exhibits the smallest mortality of any year set forth in the marginal table. A death-ratio per 1,000 of population of ·05 and a percentage of villages attacked of ·90 are subjects of congratulation, and evince the results following on the prosecution of vaccination in a systematic manner. Had the organisation and establishment I asked for

PERIOD.	Number of deaths.	Ratio per mille.	Percentage of villages attacked by small-pox.	NUMBER OF CIRCLES	
				Affected more or less severely.	From which small-pox was absent.
In 1887	3,846	·05	·90	4	377
.. 1886	4,040	·06	·97	5	359
.. 1885	9,863	·14	2·42	18	272
.. 1884	18,553	·28	2·00	59	224
.. 1883	9,714	·14	1·73	30	284
.. 1882	13,051	·20	2·87	33	290
.. 1881	24,371	·36	4·37	46	218
.. 1880	22,053	·34	4·86	54	241
.. 1879	22,843	·34	4·08	77	171
.. 1878	12,610	·18	3·09	30	206
.. 1877	8,088	·12	2·04	22	255
Mean of the decade 1877-86 ...	14,647	·22	2·94	37	251

in 1880 been granted, I have no doubt that the disease would by this time have ceased to be a subject of anxiety throughout the Province. Even under present circumstances the ratios used in the illustrative map showing the incidence of small-pox in the Province, which faces this page, have had to be reckoned differently from those used in the other illustrative maps incorporated in this report, to enable me to show the disease by grades of colour. In the districts of the Patna Division, to only three of which has vaccination been extended, 47 per cent. of the mortality is recorded, and Chumparun alone gives 674 deaths; and the Orissa Division, in which vaccination is backward and inoculators active, affords 32 per cent. The Cuttack district had the highest number of deaths (682) of any in the Province—a fact little creditable to the vaccination establishment employed there. From the Chittagong district, to which vaccination has not yet been extended, and where inoculation is in abeyance, only one fatal case is recorded. The geographical position of this district, lying between forest-covered mountains and the sea, with a base abutting on fairly protected districts, has much to say to this remarkable immunity. No deaths from the following districts are reported during the year:—Bankura, Birbhum, Serampore, Jessore, Bogra, and Pubna. Many of the deaths reported as small-pox have on enquiry been found to be measles and fevers attended by anomalous eruptions.

51. The mortality from small pox in urban and rural circles is exhibited

Mortality from Small-pox in the urban and rural circles.

CIRCLES.	DEATHS FROM SMALL-POX IN—			RATIOS PER MILLE.			Increase or decrease as compared with 1884.	Increase or decrease as compared with 1877-86.
	1887.	1886.	1877-86.	1887.	1886.	1877-86.		
Urban circles ...	331	204	1,613	13	08	02	05 J	49 D
Rural do. ...	2,515	3,845	13,134	06	06	20	01 D	15 D

in the marginal table. Though the year can compare favourably with the ten-year period 1877-86 in urban circles, yet there was increased mortality in comparison with 1886. The higher death-rate in towns, compared with rural areas, can only be attributed to neglect

of vaccination and inefficient administration of the Compulsory Vaccination Act. Bettiah and Gya stand out prominently in the list of towns as having numerous deaths from this cause.

Localities of severe prevalence of Small-pox.

52. The localities where small-pox was severe during 1887 are given below:—

TOWNS.		Ratio per mille.	RURAL CIRCLES.		Ratio per mille.
Bettiah in Chumparun ...	...	3.15	Kurseong in Darjeeling ...	...	1.37
Sewan in Sarun ...	...	1.42	Kendrapara in Cuttack ...	...	1.03

The facts about Kurseong, however, I know to be otherwise than represented; the deaths may have been from measles, but were not from small-pox.

53. The seasonal fatality of the disease is given below, and followed its usual course, the hot months from March to June having 2,215 deaths, against 1,631 in the remaining eight months. As long as inoculation is practised, this apparent law of prevalence will hold good.

MONTHS.		Deaths.	Ratio per mille.	MONTHS.		Deaths.	Ratio per mille.
January ...	...	269	004	July ...	...	285	004
February ...	...	356	005	August ...	...	185	002
March ...	...	507	007	September ...	...	92	001
April ...	...	621	009	October ...	...	83	001
May ...	...	672	01	November ...	...	142	002
June ...	...	415	006	December ...	...	219	003

54. The mortality from small-pox among infants and children is marginally exhibited. The rates at the different ages vary slightly from those of last year, but the total ratio (72.77) is less than that of 1886 by 1.10. Considering the customs of the people with regard to protecting their children from small-pox, and the difficulties arising from the zenana system, improvement under this head may be expected to come about more slowly than in the general death-rate from the disease.

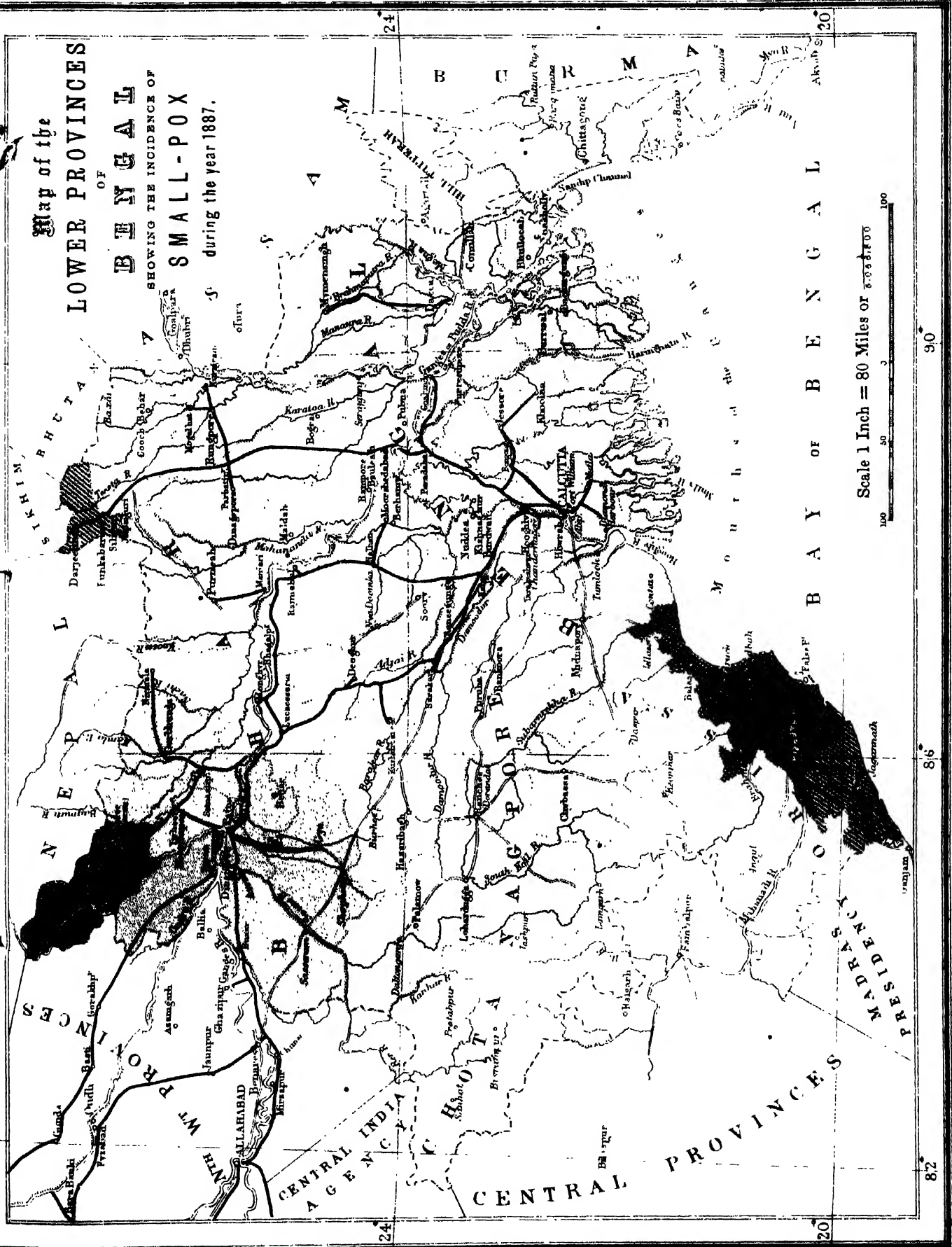
Mortality from Small-pox among infants and children.

	Deaths.	Proportion per cent. to total mortality.
Under 1 year ..	752	19.55
1 to 6 years ..	1,547	40.22
6 to 12 years ...	500	13.00
Total under 12 years.	2,799	72.77

Map of the LOWER PROVINCES OF BENGAL SHOWING THE INCIDENCE OF SMALL-POX during the year 1887.

Districts in which the number of death
from Small-pox per one hundred thousand
of the population ranged—

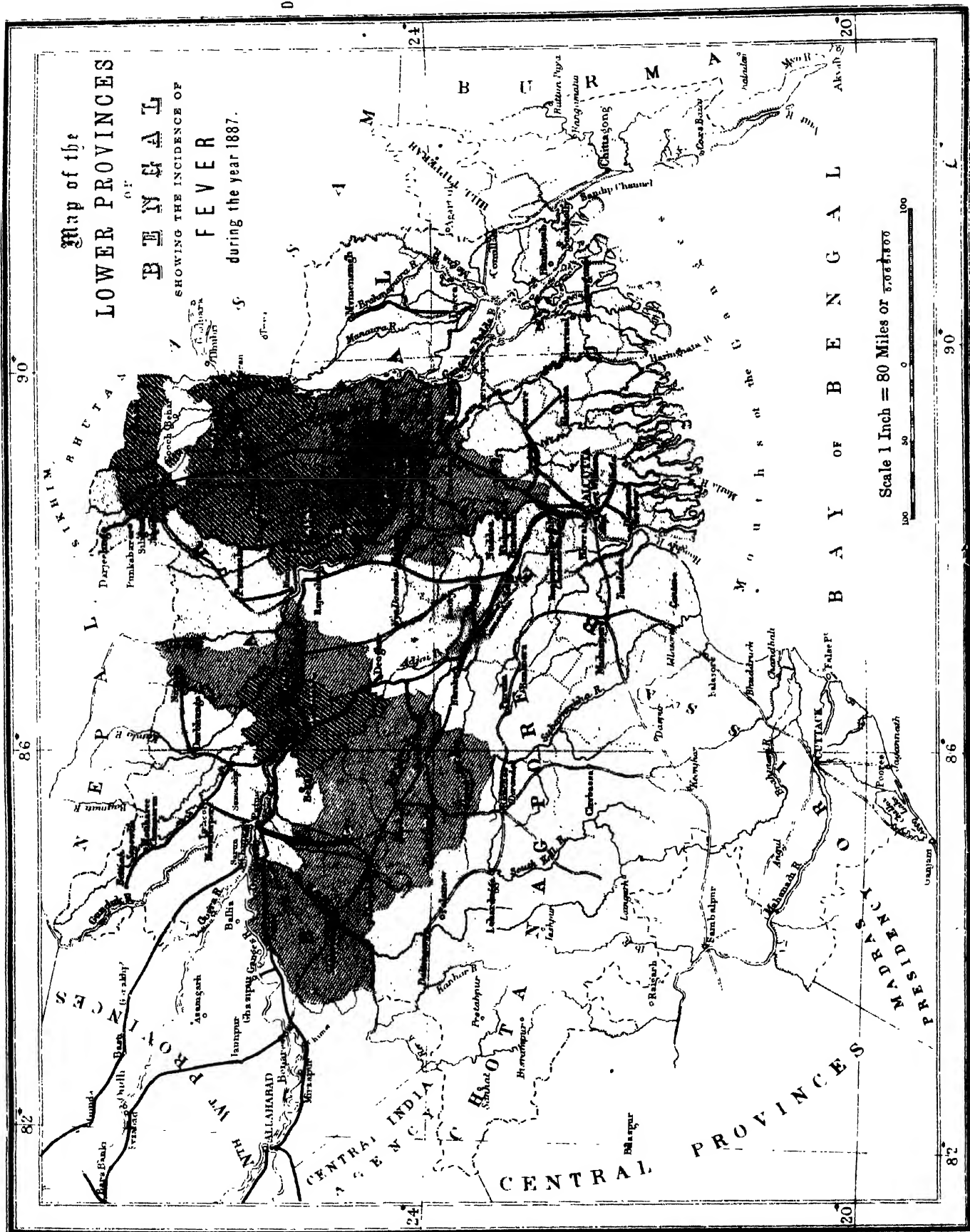
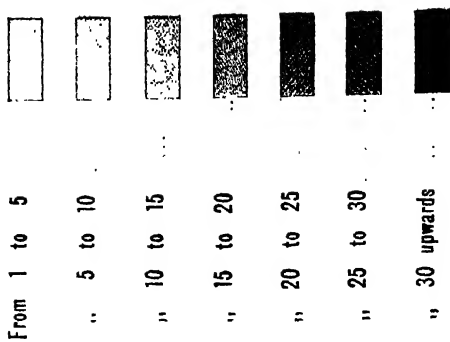
From 0 to 1	
" 1 to 5	
" 5 to 10	
" 10 to 20	
" 20 to 30	
" 30 upwards	



Scale 1 Inch = 80 Miles or 128 Kilometres

Map of the LOWER PROVINCES OF BENGAL SHOWING THE INCIDENCE OF FEVER during the year 1887.

Districts in which the number of deaths
from Fever per one thousand of the
population ranged—



55. In the Port of Calcutta one case of small-pox was admitted into hospital from the European seamen, and death did not result. No deaths were reported among the Native floating population, but two foreign steamers, bringing pilgrims from Jeddah, arrived with small-pox on board—two cases in one steamer and nine in the other. No outbreak of the disease followed in the dispersal of the pilgrims in Calcutta, but I have heard of two in the mofussil.

FEVER.

56. The statistics of fever fatality and prevalence for the year 1887 will be found contrasted with those of the previous decade in the marginal table. The number of deaths, and consequent ratio to population, continues to rise; and judging by the figures presented, the year under review would be classed as a very unhealthy one. This, however, can hardly be considered the case, except in a few localities, for the general view of the Magistrates and Civil Surgeons is in favour of an opposite opinion. It will be seen that, in regard to special virulence in circles, fever prevailed more than in the preceding four years, but the

Prevalence and fatality of Fever.

PERIOD.	Number of deaths.	Ratio per mille of population.	Number of villages affected.	CHARACTER OF PREVALENCE. NUMBER OF CIRCLES IN WHICH THE DISEASE PREVAILED—		
				With greatest virulence.	With less activity.	Normally.
In the year 1887 ...	1,087,768	16'44	149,916	86	160	440
Ditto 1886 ...	1,067,296	15'97	146,905	24	150	471
Ditto 1885 ...	1,042,142	15'75	147,675	24	154	469
Ditto 1884 ...	966,233	14'69	147,406	29	116	504
Ditto 1883 ...	913,765	13'81	142,731	27	130	491
Ditto 1882 ...	929,943	14'06	134,812	58	100	477
Ditto 1881 ...	940,911	14'23	141,976	218	167	289
Ditto 1880 ...	689,606	10'43	129,046	124	112	437
Ditto 1879 ...	622,260	9'41	118,970	89	105	479
Ditto 1878 ...	742,887	11'23	123,340	135	140	389
Ditto 1877 ...	711,637	10'75	111,925	135	113	416
Mean of the decade 1877-86 ...	861,608	13'02	134,784	86	130	442

fall is great since the epidemic times included in the years 1880-82. I believe the increase in mortality may be generally attributed to advancing registration in many districts; and should the subject only obtain the attention it merits, a further advance may be anticipated. It is to be understood that under this heading are included nearly all diseases attended by a rise of temperature. The shaded map facing this page illustrates fever fatality during 1887.

57. The marginal table presents the facts for similar periods of fever mortality in towns and rural areas, from which it will be learned that fever is gradually declining in the former and increasing in the latter. To obviate mistake, however, I would point out that this marked decline of fatality in towns is coincident with making over the charge of registration to municipal bodies, who have often sadly neglected this most important and necessary part of their duties. I believe in no such remarkable change in the incidence of fever in municipalities as is represented. The deaths in rural circles go on increasing with improved registration.

Comparative mortality from Fever in the urban and rural circles.

CIRCLES.	DEATHS FROM FEVER IN—			RATIO PER 1,000 OF POPULATION IN—			Increase or decrease as compared with 1886.	Increase or decrease as compared with 1877-86.
	1887.	1886.	1877-86.	1887.	1886.	1877-86.		
Urban circles ...	25,195	20,615	36,821	10'45	12'29	15'07	1'84 D	4'62 D
Rural do. ...	1,062,573	1,027,681	825,287	16'06	16'11	12'94	'55 I	3'72 I

who have often sadly neglected this most important and necessary part of their duties. I believe in no such remarkable change in the incidence of fever in municipalities as is represented. The deaths in rural circles go on increasing with improved registration.

58. The seasonal incidence of fever for the whole Province, and the rainfall in 1887 are marginally shown. The course of events was normal, the bulk of the figures obscuring the differences which are usual in the several geographical divisions of the Province. January as usual has a heavy

Seasonal incidence of Fever in the Province.

Months.	Deaths in 1887.	Ratio per mille.	Rainfall in 1887.	Months.	Deaths in 1887.	Ratio per mille.	Rainfall in 1887.
January ...	105,105	1'58	1'50	July ...	80,808	1'22	11'50
February ...	74,363	1'12	'04	August ...	91,403	1'38	11'50
March ...	75,366	1'13	2'63	September ...	82,826	1'25	7'93
April ...	83,293	1'25	1'27	October ...	107,379	1'62	3'51
May ...	85,150	1'28	8'49	November ...	110,031	1'70	'56
June ...	69,851	1'05	11'12	December ...	113,304	1'71	'0002

mortality, followed by a marked diminution during February and March, a rise in April and May, another fall in June, followed by a rise in July and August, an anomalous drop in September, succeeded by the three months of the last quarter, which are always the worst. Deaths in September may have been influenced by the early diminution of the rains in some districts.

59. The marginal table presents the districts in which the fever mortality

Districts in which Fever prevailed most severely.							
Districts.		Ratio per mille.		Districts.		Ratio per mille.	
Rajshahye	30.73	Nodda	...	...	21.99
Dumapora	29.87	Bhagulpore	...	...	21.56
Jalpaiguri	28.98	Hazaribagh	...	...	21.35
Maldah	26.95	Shahabad	...	...	20.62
Monghyr	25.94	Gya	...	...	20.31
Rangpur	25.90	Birbhoon	...	...	19.75
Bogra	24.94	Purneah	...	...	19.10
Pubna	23.82	Darjiling	...	...	19.07
Murshedabad	23.72				

was greatest. The first four are districts in Northern Bengal, the fifth is Monghyr, taking this position from exceptional causes, while following it are three more districts in Northern Bengal. This establishes to my mind that

in some parts of the country registration of deaths is beginning to hold some relation to actual facts, as from intimate knowledge I look upon the first eight districts in the list, except Monghyr, as some of the most feverish in the Province. When events come to be truly recorded, I think it will be found that the districts comprised in the great triangle lying between the Gunduck and the Ganges on the south, the Berhampooter on the east, and the Himalayas on the north, will be the area specially afflicted by severe malarious fever. To elucidate this, however, the civil authorities in Behar must give proper attention to mortuary registration.

60. A few facts concerning the incidence of fever in Bengal, Behar and

General history of Fever in the Divisions of the Province and in districts.

Orissa, and in the administrative divisions are subjoined.

BENGAL.

61. In a population estimated in 1881 at 35,073,770, 627,958 deaths from

Mortality from, and seasonal incidence of, Fever in the Bengal Proper Division of the Province.

fever were recorded, giving a ratio per 1,000 of 17.90, against 17.15 in 1886 and 16.74 in the quinquennium 1882-86—a progressive rise in mortality. The number of villages from which mortality was returned was 81,997, or

MONTHS.					MONTHS.				
	Number of deaths in 1887.	Rainfall in 1887.	Mean deaths during decade 1877-86.	Average rainfall of preceding years.		Number of deaths in 1887.	Rainfall in 1887.	Mean deaths during decade 1877-86.	Average rainfall of preceding years.
January	67,787	1.42	50,015	7.40	...	39,346	12.67	31,426	14.82
February	46,935	4.07	38,569	7.39	August	44,250	12.96	35,596	14.80
March	40,717	4.04	39,386	1.70	September	41,400	9.68	39,402	11.28
April	50,299	1.69	38,708	2.71	October	42,200	3.90	48,024	4.73
May	47,245	8.78	34,779	7.33	November	72,039	8.7	65,208	4.7
June	36,367	13.56	39,834	14.84	December	73,364	9.04	69,847	4.20

a percentage of 68.29, against one of 69.80 in 1886—a diminution of 1.51. The seasonal fatality, month by month is marginally shown with rainfall for 1887, and average of previous years. The sud-

den rise in April is unusual, and may perhaps be owing to the peculiar climatic conditions mentioned in the previous section of this report, and the fall in September may have followed the scantier rainfall of the South-West monsoon period. From May to September was the healthiest part of the year, the last quarter, the time of drying up of moisture and increasing cold, being the worst.

62. **BURDWAN DIVISION.**—The population of this Division was

Incidence of Fever in the Burdwan Division.

reckoned in 1881 at 7,393,954. In 1887, 109,797 persons are returned as having died from fever, giving a ratio per mille of 14.84, against 102,188 and ratio of 13.82 in 1886, and 120,297, or 16.26, in the lustrum 1882-86. The disease, therefore, was more fatal than the year before, but considerably less than in the other period with which comparison is made. After the cessation of the great epidemic fever, it is estimated that if the people increased in numbers at similar rates as in the province generally, the population at the end of the year under review should stand at 8,078,475 and the fever death-rate at 13.59. The marginal table represents the facts relating to fever in the several districts constituting the Burdwan Division. With an increase of mortality of

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Burdwan	90.45	7.74 I	15.37	.28 I	5.41 D
Bankura	61.44	5.03 D	12.00	.63 D	4.33 D
Birbhum	77.84	4.43 D	19.75	5.12 I	.31 D
Midnapore	66.39	1.68 I	15.84	1.29 I	.85 I
Hughly and Serampore	84.48	2.18 D	13.81	.97 D	1.19 D
Howrah	73.16	1.98 I	9.92	.86 I	1.30 I
Total	71.42	.33 D	14.84	1.02 I	1.42 D

Burdwan 15.37, Hughly and Serampore 13.81, Bankura 12.00, and Howrah 9.92 per 1,000 of population. The Howrah ratio is obviously wrong, and the continued inattention to registration in this district cannot escape observation. The matter should have been carefully scrutinized by the vaccination officers of the circle, but this has not been done although they have had ample leisure and opportunity to do so. Even in a year of undue prevalence and mortality from fever, according to the Civil Surgeon fewer deaths are registered than in 1885. I have prepared the table below to show the death-rates from fever for the last six years, taking 1882 as the last one of the epidemic fever:—

PERIODS.	RATIO OF DEATHS PER 1,000 OF POPULATION.					
	Burdwan.	Bankura.	Birbhum.	Midnapore.	Hughly, including Serampore.	Howrah.
In 1887	15.37	12.00	19.75	15.84	13.81	9.92
In 1886	15.09	12.63	14.63	14.55	13.88	8.96
" 1885	17.78	12.35	16.25	14.53	15.74	10.01
" 1884	18.81	13.56	19.53	14.79	14.02	8.39
" 1883	23.35	16.71	22.27	15.31	14.34	8.12
" 1882	28.86	26.40	27.62	15.73	17.08	7.29

It will at once be observed how deaths from this cause have diminished in Burdwan, Bankura, and Birbhum; Midnapore, Hughli including Serampore and Howrah on the contrary exhibit minor variation. In the Burdwan district, however, the year under review was one associated with much suffering from fever. In the last quarter of the year it was very bad in Kulna town, and the dispensary attendance of the district rose, though the jail enjoyed excellent health, from diminished population and good water-supply. From district reports I gather that in Birbhum there was greater prevalence, chiefly in the south-east of the district, in Hughli and Howrah also, and in Midnapore a greater number of deaths, especially in the south of the district in the Contai sub division.

63. *PRESIDENCY DIVISION.*—In this Division 147,694 persons died of fever, or at the rate of 19.00 per 1,000 of a census population of 7,771,693. In 1886 a smaller number (135,800) perished from fever, or at the rate of 17.47 per 1,000, but these totals and rates are less than the average number of the quinquennium 1882-86—159,075—with a rate of 20.46.

Estimating the population at 8,141,438, the fever deaths for the year would be 18.14 per 1,000. No less

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
24 Pargannas	80.03	1.51 I	15.97	2.76 I	1.32 I
Nudda	81.80	11.92 D	21.39	.73 I	6.35 D
Jessore	88.68	2.03 I	17.48	.55 D	3.04 D
Murshedabad	86.05	1.75 D	23.72	5.30 I	2.53 I
Khulna	80.72	6.58 D	17.51	.02 D	.54 D
Total	83.59	2.23 D	19.00	1.53 I	1.46 D

than 16,672 villages, or 83.59 per cent., reported deaths in 1887, against 85.82 per cent. the year before. The marginal table presents with regard to each district in the Division a comparison of the percentage of villages attacked between 1886 and 1887, and of the death-rates in the year under review with those in 1886 and the five-year period 1882-86. Murshedabad holds the first place with regard to ratio of mortality 23.72, standing before

Nuddea 21·99, which is no longer so seriously afflicted as in former years; *Khulna* comes next with 17·54, *Jessore* 17·48, and 24-Pergunnahs 15·67 per mille. Fever was more fatal in three districts of the Presidency Division than during the year before, and was very prevalent in the last quarter of the year in

	Ratio per mille.		Ratio per mille.
In 1887	16·67	In 1882	15·63
" 1886	12·91	" 1881	16·60
" 1885	14·25	" 1880	14·09
" 1884	14·16	" 1879	13·60
" 1883	14·70	" 1878	17·40
		" 1877	15·79

within narrow limits in this district.

	Ratio of deaths per mille.
In 1887	21·99
" 1886	21·26
" 1885	26·85
" 1884	29·22
" 1883	27·60
" 1882	30·50
" 1881	35·54
" 1880	29·98
" 1879	15·66
" 1878	18·21
" 1877	17·90

Moorshedabad, which returned a high mortality. I give a marginal table for the 24-Pergunnahs, comparing the 1887 death-ratio with those of the preceding decade, from which, if the statistics are at all trustworthy, we learn that the fever mortality varies

posed, on the influence of extensive swamps now in process of filling up. The question of their reclamation is one well worth considering.

64. **RAJSHAHYE DIVISION.**—The census population of this Division in 1881 was 7,734,733, and the number of fever deaths recorded in 1887 were 210,147, yielding a death-ratio of 27·16 per 1,000, a very high figure. The mortality in 1886 was 199,649, ratio 25·81, and the average of the lustrum 1882-86, 162,887, ratio 21·05; so that in the year under consideration we have a rise in ratio of 1·35 over the year before and of 6·11 over that of the five-year period. This great increase, however, need not be supposed to be real, as I have no facts in my possession indicating that the Division has become at all more unhealthy than formerly. Only now we are beginning to be supplied with a record of mortality approximating the truth and establishing on a basis of figures the very evil reputation of the districts making up the Division. Estimating the population at 8,000,766, the death-rate would be 26·26. Deaths were recorded from 22,472 villages, or 77·30 per cent., against 21,373, or 73·56 per cent., in 1886, or an increase of 3·74 per cent. The marginal table illustrates the facts concerning fever mortality in the

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or de- crease as com- pared with 1886.	Ratio of deaths per 1,000 of popu- lation in 1887.	Increase or de- crease as com- pared with 1886.	Increase or de- crease as com- pared with 1882-86.
Dinajpur	88·71	1·29 I	29·87	5·95 I	11·72 I
Rajshahye	89·05	5·47 I	30·73	5·87 I	4·00 I
Rangpur	92·72	2·17 D	25·00	1·22 D	7·08 I
Bogra	68·03	4·43 I	24·94	2·73 I	4·26 I
Pubna	80·19	13·65 I	23·82	3·86 D	4·17 D
Darjiling	50·98	17·10 I	19·07	2·72 I	9·72 I
Jalpaiguri	87·92	1·08 D	28·98	2·03 D	8·91 I
Total	77·30	3·74 I	27·16	1·35 I	6·11 I

different districts of the Division, comparing the percentages of villages affording deaths in 1887 with those in 1886, and the death-ratios of 1887 with those of 1886 and of the lustrum preceding the year under review. In 1887 there are enhanced death-ratios in five districts and diminished ratios in three districts, comparing them with those of 1886; but with regard to the lustrum, there is a decrease only in the Pubna district,

parts of which, however, suffered severely, as Raigunj Rural, with a death-rate of 29·66, Chatmohur 28·63, Dulai 26·94, and Serajgunj Rural, 24·26 per 1,000. This year Rajshahye district displaces Jalpaiguri from the top of the list of most afflicted districts with a death-rate of 30·73 per 1,000. For easy reference I give a statement in the margin to show how severely those Sub-Himalayan districts suffer. The Civil Surgeons of Rangpur and Dinajpur both mention cases of typho-malarial fever as having come under observation, as well as the ordinary intermittent and remittent fevers so common in their districts. There were inundations in Rajshahye, Pubna, and Dinajpur, and in the last they were supposed to have

	Ratio per mille in 1887.	Difference in mortality as compared with 1886.
Rajshahye	30·73	5·87 I
Dinajpur	29·87	5·95 I
Jalpaiguri	28·98	2·03 D
Rangpur	25·00	1·22 D
Bogra	24·94	2·73 I
Pubna	23·82	3·86 D
Darjiling	19·07	2·72 I

favoured fever prevalence. In Rajshahye the inundated tracts are said to have suffered equally with others, and in Pubna the effects were not ascertained. As a rule a Ganges flood is followed by good results to health.

65. **DACCA DIVISION.**—Only 13,467 villages of this Division, or 46·26 per cent., returned deaths from fever, against 15,513 villages, or 54·10 per cent., or a decrease of 7·84 per cent. in 1887. The disease was therefore less fatal and less diffused than in the previous year. The deaths reported numbered 114,370; or at the rate of 13·14 per mille of a census population of 8,700,939, in opposition to 119,170, rate 13·69 in 1886, or 102,868, rate 11·82 per 1,000 in the quinquennium 1882-86. If the population be estimated at the end of the year at 9,650,167, the death-rate would be 11·85 per 1,000. The districts stand with regard to mortality in the same order as last year as marginally shown. If registration were reliable, I am by no means sure that the order and ratios would not be found considerably changed. In Faridpur especially registration is remarkably and inexcusably defective. The facts concerning the disease in the different districts are shown in the marginal table, which I fear, however, discloses a very incorrect record of events, and therefore need not be considered at length. The Civil Surgeon of Dacca notes the presence of a pernicious remittent fever, and the Civil Medical Officer of Faridpur states that seven cases of typhoid fever came under his observation in the headquarters town.

		Ratio per mille.
Backerganj	...	17·63
Dacca	...	13·18
Mymensingh	...	12·07
Faridpur	...	9·86

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Dacca	82·00	13·21 <i>I</i>	13·18	1·06 <i>D</i>	1·16 <i>D</i>
Faridpur	53·55	12·86 <i>D</i>	9·86	1·80 <i>D</i>	·92 <i>D</i>
Backerganj	65·33	5·1	17·02	·84 <i>I</i>	2·03 <i>I</i>
Mymensingh	23·75	17·48 <i>D</i>	12·07	·36 <i>D</i>	3·11 <i>I</i>
Total	46·26	7·84 <i>D</i>	13·14	·55 <i>D</i>	1·32 <i>I</i>

66. **CHITTAGONG DIVISION.**—In this Division, with a census population of 3,472,451, 45,950 persons died of fever, or at the rate of 13·23 per 1,000, against 44,911, rate 12·93 in 1886, or 42,228, or 12·16 in the lustrum 1882-86. A slight progressive increase of mortality is thus indicated, but in 1887 a smaller number of villages reported deaths 6,924, or 65·94 per cent., in comparison with 7,136, or 68·14 per cent., in the year before, a decrease of 2·21 per cent. The disease may therefore be said to have been more fatal, but less general in the year under review, a very doubtful statement. The marginal statement, however, shows a decrease in villages attacked in all the districts, but an increase in mortality in two out of three. In order of mortality they stand as follows:—Noakhali 17·41, Tipperah 12·63, Chittagong 11·00 per 1,000. The reports of the Civil Surgeons, however, tend to discredit this, as fever was very

Incidence of Fever in the Chittagong Division in 1887.

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Chittagong	69·06	2·09 <i>D</i>	11·00	·18 <i>D</i>	·42 <i>D</i>
Noakhali	68·56	2·80 <i>D</i>	17·41	·62 <i>I</i>	1·90 <i>I</i>
Tipperah	64·21	1·86 <i>D</i>	12·63	·48 <i>I</i>	1·69 <i>I</i>
Total	65·94	2·21 <i>D</i>	13·23	·30 <i>I</i>	1·07 <i>I</i>

prevalent in the Tipperah district, beginning in July, it is said, on account of scanty rainfall, when only 7·76 inches fell, against an average of 3 years of 18·68 inches. It was so severe that no less than five Hospital Assistants were deputed to treat cases, many of which were of a remittent character towards the hills. If the population of this Division is estimated at 3,547,172, the death-rate for 1887 would be 12·95.

BEHAR.

67. The population of Behar in 1881 was numbered 23,127,104, and in the year under review fever was the death cause of 366,857, or at the rate of 15·86 per 1,000. In 1886, 370,740 deaths were reported, or a rate of

Mortality from and seasonal incidence of Fever in the Behar Division of the Province.

16.03 against 315,434 deaths, rate 13.63 in the five-year period 1882-86. From 42,480 villages deaths were recorded, or 64.02 per cent., in contrast with 42,652 villages, or 64.44 per cent., in 1886. In 1887, therefore, there was smaller mortality distributed over a less number of villages than in 1886, and a distinctly greater death-rate excelling that of the lustrum by 2.23 per 1,000.

In the marginal table are exhibited the deaths in every month of the year 1887, the rainfall by the month, the average fever deaths of the decade 1877-86, and the average rainfall month by month.

Months.	Deaths in 1887.	Rainfall in 1887.	Average deaths during decade 1877-86.	Normal rainfall of several years.	Months.	Deaths in 1887.	Rainfall in 1887.	Average deaths during decade 1877-86.	Normal rainfall of several years.
January ...	29,763	1.88	18,360	.52	July ...	33,735	8.60	20,307	12.28
February ...	21,242	<i>Nil</i>	15,960	.51	August ...	38,071	10.54	24,065	11.47
March ...	21,822	.72	17,753	.50	September ...	32,785	7.09	24,965	9.07
April ...	25,765	.77	10,737	.58	October ...	36,410	8.85	28,500	2.45
May ...	30,521	8.45	11,179	2.65	November ...	38,053	<i>Nil</i>	31,464	.14
June ...	27,302	8.83	19,422	8.01	December ...	34,358	<i>Nil</i>	26,764	.17

As usual the heaviest loss of life occurs in the last quarter of the year, but in contrast with Lower Bengal mortality increases more rapidly during the rains, and August of 1887 was characterized by an abnormal number of deaths, which may have followed irregular rainfall in May and slight fall in July. The reasons for the differences between Behar and Lower Bengal have been explained in previous reports. The proper health status of Behar with regard to fever will remain a matter of obscurity until we can obtain correct figures from Durbungha, Mozufferpore, and Chumparun districts.

68. **BHAGULPORE (EAST BEHAR) DIVISION.**—The deaths recorded were 169,407, giving a death-rate per 1,000 from a census population of 8,063,160 of 21.01; while in 1886 there were 151,321 deaths, rate 18.76, and in the lustrum 1882-86, 128,410 deaths, rate 15.92. Casualties are reported from 18,904 villages—75.27 per cent. against 17,237, or 68.03 per cent. the year before. In contrast with both periods, however, the year 1887 may be said to show increase and extension of fatal results. If the population of the division be estimated at 8,704,694, the death-rate of the year would be 19.46 per mille. The districts are arranged marginally according to the severity of the disease. Maldah, this year takes precedence of all, and displaces Monghyr which last year headed the list. The rates show an increase in every district, but Purneah by no means occupies its proper position, as in it fever was widespread and of a bad type, affecting European residents who escape in year of moderate intensity. All the reports, however, show that there was greater prevalence and fatality from fever in these districts than for some time. There were inundations from the Ganges and Kosi in Bhagulpore and Purneah, from the Ganges in Monghyr, and from the Mahanunda in Maldah. Only in Monghyr is increased fever ascribed to this cause. The facts concerning the diffusion and fatality of fever in the several districts of the division are contrasted in the marginal table with those of 1886 and of the fatality with the lustrum 1882-86.

	Ratio per mille.
Maldah ...	26.95
Monghyr ...	25.94
Bhagulpore ...	21.56
Purneah ...	19.10
Sonthal Pergunnahs ...	13.66

dents who escape in year of moderate intensity. All the reports, however, show that there was greater prevalence and fatality from fever in these districts than

DISTRICTS.	Percentage of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Monghyr ...	79.81	111	25.94	1.87	9.55
Bhagulpore ...	84.57	7.43	21.56	1.87	8.96
Purneah ...	99.53	3.70	19.10	4.07	1.77
Maldah ...	84.74	14.62	26.95	12.59	10.54
Sonthal Pergunnahs ...	59.48	8.83	13.66	2.29	2.32
Total ...	75.27	7.24	21.01	2.25	6.09

69. **PATNA OR WEST BEHAR DIVISION.**—In 1881 the population of the Division was given at 15,063,944, but (West Behar) Division in 1887. it now may be estimated at 16,729,281. The recorded deaths in the year are 197,450, which gives a death-rate of 13.10 per 1,000 of the former population and of 11.80 of the latter. In 1886 there were 219,419 deaths, rate 14.56; and in the lustrum an average of 187,024 deaths, rate 12.41 per 1,000 of census population. There is thus a decrease in ratio of 1.46 in comparison with the year before, and an increase over

Incidence of Fever in the Patna of the Division was given at 15,063,944, but (West Behar) Division in 1887. it now may be estimated at 16,729,281. The recorded deaths in the year are 197,450, which gives a death-rate of 13.10 per 1,000 of the former population and of 11.80 of the latter. In 1886 there were 219,419 deaths, rate 14.56; and in the lustrum an average of 187,024 deaths, rate 12.41 per 1,000 of census population. There is thus a decrease in ratio of 1.46 in comparison with the year before, and an increase over

DISTRICTS.	Ratio of deaths per mille in 1887.	Difference in mortality as compared with 1886.	Difference in percentages of villages as compared with 1886.
Shahabad	20.62	8.58 D	9.16 D
Gya	20.31	1.24 D	4.32 D
Patna	15.24	.27 I	7.53 D
Chumparun	13.41	1.52 D	7.62 D
Durbhunga	10.54	.40 I	1.57 D
Sarun	7.23	.77 D	5.11 D
Mozufferpore	7.23	1.80 D	3.33 I

records of which, however, are by no means reliable.

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1886.
Patna	64.52	7.53 D	15.28	.27 I	.10 D
Gya	75.37	4.32 D	20.31	1.24 D	2.39 I
Shahabad	85.54	9.10 D	20.62	8.58 D	3.26 I
Mozufferpore	81.23	3.33 I	7.23	1.80 D	2.19 D
Durbhunga	32.97	1.57 D	10.54	.40 I	.40 I
Sarun	30.77	9.11 D	7.23	.77 D	.25 D
Chumparun	31.04	7.02 D	13.41	1.52 D	1.42 I
Total	57.16	5.05 D	13.10	1.46 D	.60 I

Durbhunga than any year since 1882, except 1885, and most fatal in the last quarter, while in Shahabad the highest mortality was in the third quarter. In Chumparun the fatality was greatest in the thanas under the hills. The question of the influence of irrigation canals on fever prevalence in Shahabad has evidently formed the subject of enquiry by the Commission which sat during the year to consider the management of the Sone system of canals, for I am favoured with a copy of a letter which the Civil Surgeon

Period.	Ratio per mille.	Period.	Ratio per mille.
In 1887 ...	20.62	In 1882 ...	12.32
In 1886 ...	29.20	" 1881 ...	14.41
" 1885 ...	19.72	" 1880 ...	6.26
" 1884 ...	12.83	" 1879 ...	12.93
" 1883 ...	12.83	" 1878 ...	10.87
" 1882 ...	12.66	" 1877 ...	8.43

sent to the Commission, in which he has carefully discussed the subject. For reference I give in the margin the incidence of fever in Shahabad since 1877; unfortunately the record for the earlier years is very defective. The Civil Surgeon's conclusions are as follows:—
 "It seems to me from a study of such statistics as are forthcoming on this subject that canal irrigation of this district has without doubt intensified pre-existing disease producing influences. It is a mistake to assert, as is sometimes done, that malarial fevers were almost unknown previous to the canal period. The fact is that the district has been subject to malarial fevers for a very long number of years, and it is also, I believe, a fact that in recent epidemic years the district suffered certainly to a greater degree, but in common with neighbouring districts. I fear it cannot be denied that obstructions to drainage have been caused by canals. But numerous other obstructions exist from bunds and embankments, leaving water after heavy rainfall stagnating in barren channels. Then it is said that water is wastefully used, and I can vouch for its being injuriously used. The cultivation of crops, such as sugarcane, requiring very frequent flushing, has enormously increased since the canals were made.....To sum up, I should say that the effect of the canal system has been of a mixed nature. On the one hand they are said to have placed the district beyond the danger of famine (although I do not think this to be proved if population goes on keeping pace with production as before last census when an increase of nearly $\frac{1}{4}$ of a million was found) by offering a means of saving the crops in years of drought, they have increased productiveness and made fertile what was previously barren. They have without doubt benefitted the people by affording a means of easy communication throughout the district, and one chief element of good has been the introduction of a good supply of water to places where formerly it was of very inferior quality. On the other

the lustrum rate of .69. Fewer villages, 23,576, or 57.16 per cent., afforded fatal results in opposition to 25,415, or 62.21 per cent. in 1886—a decrease of 5.05 per cent. The marginal table contrasts the ratios of 1887 with those of 1886 for every district in the Division, and presents a diminution in four districts, a remarkable one of 8.58 in Shahabad, and an increase in three districts. A diminished number of villages, however, were affected in all districts, except Mozufferpore, the

I give a marginal table for the facts as explained with regard to the Divisions previously considered. The district reports state that there was a moderate flood from the Sone and the usual overflow of the Ganges in Shahabad, followed by no unusual prevalence of fever, while the inundations from the Ganduck and Gogra in Sarun are said to have resulted only in damage to crops. Malarious fever is noted as extensively prevalent in the Behar sub-division of Patna, worse in

hand, they have brought about such conditions as without doubt promote the spread of disease, such as malarial fever, &c. These conditions can, to some extent, be improved,.....but when all has been done that can be done, I fear that conditions favourable to malaria will continue to exist in years when the rainfall is above the average."

ORISSA.

70. The wonderfully low fever death-rate in Orissa, compared with those of other parts of the province, is again presented this year. Out of a population of 3,628,832, only 27,494 deaths are registered, or at the rate of 7·57 per 1,000; in 1886 they were 29,126, rate 8·02; and in the lustrum 1882-86, 25,949, rate 7·15. If the population be estimated at 4,105,838, the death-rate for 1887 would be 6·69 per mille. Since 1882 a very level record has been kept, but while Cuttack and Balasore give ratios of 8·59 and 8·58 respectively, and Puri one of 4·43, we cannot accept the statements presented as true, as there is good reason to believe that parts of Puri district are much more malarious than any in the other two. It seems to be, however, more a matter of registration, as Puri records a death-rate from "Other causes" of 14·76 per 1,000, more than three times as high as Cuttack and more than twice as high as Balasore. Deaths were registered from fever in 9,925 or 47·80 per cent. of villages in 1887, against 9,464 or 46·23 in 1886, so that there has been more extensive diffusion, but less mortality in the year under review. The severity of the disease month by month and rainfall in 1887 are con-

MONTHS.	Deaths in 1887.	Rainfall in 1887.	Average deaths during decade 1877-86.	Average rainfall of previous years.	MONTHS.	Deaths in 1887.	Rainfall in 1887.	Average deaths during decade 1877-86.	Average rainfall of previous years.
January ...	3,385	N/L.	2,051	'30	July ...	1,614	11·41	1,601	12·00
February ...	2,503	N/L.	2,306	'93	August ...	1,062	9·30	1,765	11·33
March ...	2,408	1·45	2,251	1·11	September ...	2,005	6·41	1,845	10·75
April ...	2,052	'74	1,945	1·33	October ...	2,300	4·19	2,191	6·40
May ...	1,751	6·88	1,683	3·58	November ...	2,891	'88	2,843	1·30
June ...	1,400	5·87	1,607	9·11	December ...	3,074	N/L.	3,570	'65

trary, approximating to the rule of districts in Lower Bengal. The facts disclosed by the mortuary returns since 1882 are also marginally shown, and indicate a considerably increased prevalence and somewhat

enhanced mortality in Puri against a decrease of both in the Balasore district in 1887. Fever seems to have prevailed severely in Khurda sub-division of Puri, and thana Banpur, lying near the Chilka Lake and abounding in jungle, has before been noted as a very feverish locality.

CHOTA NAGPORE.

71. In this Division 65,459 deaths are reported, giving a death-rate per 1,000 of 15·10 from the census population of 4,334,178. The numbers in 1886 were 55,712, death-rate 12·85, and the average of the quinquennium 1882-86, 53,138, giving a rate of 12·26. The year under review therefore gives an excess death-rate over 1886 of 2·25, and above the lustrum of 2·84 per 1,000. The number of villages recording deaths was 15,514, or 62·65 per cent., against 14,413, or 57·69 per cent., in 1886. These figures indicate that the disease was more fatal and widespread than the year before, and attended by considerably more casualties than the average of the five-year period. If we estimate the population at 5,525,580, the death-ratio for 1887 would be only 11·84 per 1,000.

Mortality from, and seasonal incidence of, Fever in the Chota Nagpore Division of the Province in 1887.

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Cuttack ...	57·56	'88	8·59	'11 D	'53 I
Puri ...	34·90	'31 D	4·43	'73 I	'51 I
Balasore ...	41·24	1·00 D	8·58	2·20 D	'14 I
Total ...	47·80	1·57 I	7·57	'45 D	'42 I

			Ratio per mille.
Hazaribagh	...	...	21.35
Manbhum	...	...	13.53
Lohardugga	...	...	12.85
Singbhum	...	...	12.18

In order of mortality the districts stand as marginally given, Manbhum displacing Lohardugga from the second place which it occupied last year, otherwise the arrangement is unaltered. The

MONTHS.	Deaths in 1887.	Rainfall in 1887.	Average deaths of decade 1877-86.	Average rainfall during previous years.	MONTHS.	Deaths in 1887.	Rainfall in 1887.	Average deaths of decade 1877-86.	Average rainfall during previous years.
January ...	4,170	1.70	3,164	.64	July ...	6,113	12.65	3,857	12.92
February ...	3,683	<i>Nil.</i>	3,021	.78	August ...	7,130	12.41	4,712	12.85
March ...	4,418	.10	3,553	1.03	September ...	6,537	6.62	4,805	8.40
April ...	5,227	.50	3,082	.66	October ...	6,409	1.36	4,338	3.34
May ...	5,633	7.99	3,846	2.58	November ...	6,048	<i>Nil.</i>	4,183	.27
June ...	4,683	6.02	3,621	8.04	December ...	5,408	<i>Nil.</i>	3,836	.31

marginal table exhibits the monthly mortality and rainfall for 1887, and the average mortality for the decade 1877-86, and the average rainfall.

It appears as if the heavy rainfall in May connected with the cyclonic storm before referred to had advanced the period of heavy mortality somewhat, that of July being much above the average. The largest number of deaths occurs in the second half of the year, and the months of highest loss of life are August, September, and October, in marked contrast to Lower Bengal. Marginally is shown

DISTRICTS.	Percentages of villages attacked in 1887.	Increase or decrease as compared with 1886.	Ratio of deaths per 1,000 of population in 1887.	Increase or decrease as compared with 1886.	Increase or decrease as compared with 1882-86.
Hazaribagh ...	65.95	7.39 <i>I</i>	21.35	5.00 <i>I</i>	6.37 <i>I</i>
Lohardugga ...	57.77	1.37 <i>I</i>	12.85	.61 <i>I</i>	.55 <i>I</i>
Singbhum ...	63.03	6.68 <i>I</i>	12.18	1.93 <i>I</i>	1.80 <i>I</i>
Manbhum ...	64.49	5.36 <i>I</i>	13.53	2.19 <i>I</i>	3.19 <i>I</i>
Total ...	62.05	4.96 <i>I</i>	15.10	3.25 <i>I</i>	2.84 <i>I</i>

more in detail the facts disclosed by the mortality returns of the year. From them also may be learned the increase of mortality and greater extension of fever among villages in every district in the

Division, compared with the five years before.

. 72. In the table in the margin will be found a statement regarding the

Incidence of Fever in the Port of Calcutta.

IN 1887.				IN 1886.		
	Admission into hospital.	Deaths.	Ratio per mille.	Admission into hospital.	Deaths.	Ratio per mille.
Fever, enteric ...	8	2	1.05	12	4	1.72
.. malarious ...	220	1	.52	321	3	1.29
.. simple ...	65	.....	.....	155	.....	.....

prevalence and fatality among European seamen in the Port of Calcutta during the last two years. It will be seen that admissions to hospital for the three kinds of fever tabulated were less under all heads in the year under

review compared with the year before, and that the ratios of mortality were also lower. There were only three deaths, two from enteric and one from malarious fever, against four from enteric and three from malarious fever in 1886. There were no deaths from simple fever. Among the Native floating population there were no deaths from malarious fever, but 22 deaths from simple fever against 15 last year, the respective ratios being .88 and .59, an enhancement of .29 per 1,000 of estimated population.

BOWEL-COMPLAINTS.

73. The figures given in the margin exhibit the deaths from bowel-

Extent of prevalence and fatality of Bowel-complaints.

Period.	Number of deaths.	Percentage of villages attacked.	Period.	Number of deaths.	Percentage of villages attacked.
In 1887 ...	56,893	10.30	In 1881 ...	57,029	11.60
.. 1886 ...	55,693	9.70	.. 1880 ...	44,960	10.14
.. 1885 ...	63,808	10.69	.. 1879 ...	52,297	10.23
.. 1884 ...	58,376	10.61	.. 1878 ...	65,282	13.44
.. 1883 ...	55,270	9.32	.. 1877 ...	58,962	12.18
.. 1882 ...	61,362	11.71			

complaints and the extent of their prevalence during the year and preceding decade. The number registered in 1887, 56,893, exceeds that, 55,693, of the previous year, and the excess in ratio is .01

per 1,000; but in the ten years 1877-86 there is higher mortality in no less than six years out of the ten compared with the year under review. It is a curious

circumstance how with advancing registration the record under this head shows no improvement. In the urban circles 8,405 persons are reported as having died from bowel-complaints or at the rate of 3·48 per 1,000, against 9,106 or at the rate of 3·77 in 1886, and there is also a

Comparative prevalence of Bowel-complaints in the urban and rural circles.

CIRCLES.	Number of deaths in—			Ratio per mille in—			Difference as compared with 1886.	Difference as compared with 1882-86.
	1887.	1886.	1882-86.	1887.	1886.	1882-86.		
Urban ...	8,405	9,106	8,686	3·48	3·77	3·72	·29 D	·24 D
Rural ...	48,488	46,587	49,916	·78	·73	·78	·03 I	·02 D

decline in ratio of ·24 in comparison with the quinquennium 1882-86. In rural circles, however, there has been some advance in mortality since the year before, but a decrease in comparison with the lustrum. The great difference in mortality between urban and rural circles is maintained as before, but need not be assumed as a correct statement of facts, merely a difference in the mode of recording events.

74. The seasonal incidence of these diseases is set forth in the margin, and begins with a heavy mortality in January, which is only exceeded by one month—August. The exceptional rise in July and August is evidently associated with the prevalence of

Seasonal incidence of Bowel-complaints.

MONTHS.	Number of deaths.	MONTHS.	Number of deaths.
January ...	5,632	July ...	5,178
February ...	4,092	August ...	6,017
March ...	3,996	September ...	4,846
April ...	4,373	October ...	4,530
May ...	4,854	November ...	4,477
June ...	4,114	December ...	4,784

cholera during these two months. The last quarter shows much less loss of life than the preceding year.

75. The areas most severely affected with bowel-complaints are given below. Darjeeling district holds a conspicuous place among the districts, and there is no doubt that it is seriously afflicted with the disease known as "hill diarrhoea" and also with a fatal form of the complaint during the hot season and onset of the rains.

DISTRICTS.	Ratio per mille.	TOWNS.	Ratio per mille.	RURAL CIRCLES.	Ratio per mille.
Darjiling ...	4·97	Puri ...	9·88	Dinapore in Patna ...	11·82
Balasore ...	4·64	Jungipur in Moorsheadabad ...	9·12	Kurseong in Darjeeling ...	9·20
Puri ...	3·74	Serampore ...	8·64	Baliapal in Balasore ...	9·19
Howrah ...	3·50	Chybassa in Singhbhum ...	7·32	Soro in ditto ...	8·68
Serampore ...	2·15	Suburbs of Calcutta ...	7·22	Darjiling ...	8·67
Cuttack ...	2·15	Hughly ...	6·71	Jhalasore in Balasore...	5·97
		Balasore ...	6·26	Mokama in Patna ...	5·49
		Uttarpara in Serampore...	5·80	Balasore ...	5·46
		Sitamurhi in Mozufferpore	5·71	Basta in Balasore ...	5·29
		Lalganj in ditto ...	5·64	Aul in Cuttack ...	5·02
		Hajipur in ditto ...	5·33		
		Hazaribagh ...	5·29		
		Revilganj in Sarun ...	5·28		
		Raniganj in Burdwan ...	5·21		
		Baranagore in 24-Pergunnahs ...	5·13		

76. **PORT OF CALCUTTA.**—The admissions into hospital of European seamen greatly decreased in comparison with 1886, and the mortality was very light, only one seaman having died of diarrhoea. Among the native floating population, however, there were both an increased number of admissions and deaths, but the rates are by no means heavy.

INJURY.

77. There were 26,630 deaths reported from injury, or a ratio of ·40 in opposition to 29,081, ratio ·43 in 1886. The rate of the quinquennium 1882-86 was ·38 and for the decade 1877-86 ·35. There is a slight improvement in figures compared with the latter periods. There were no great storm-waves or disasters on

Mortality from Injury.

PERIOD.	Suicide.				Wounds.		Accidents.		Snake-bite and killed by wild beasts.	
	Deaths.			Ratio per cent. to total deaths from injury.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	Male.	Female.	Total.							
In 1887 ...	931	1,817	2,748	10·31	1,385	5·20	12,103	45·44	10,394	30·03
„ 1877-86	933	1,658	2,491	10·47	1,417	5·98	9,024	40·48	10,241	43·07

land during the year to swell the mortality under this head. A table of mortality from different kinds of injury for the year under review and the preceding decade is marginally placed, and shows that as before accidents caused the greatest number of casualties, followed pretty closely by snake-bite and the attacks of wild animals. Suicides come next, those of females largely predominating, and wounds are an infrequent death cause.

78. Following the record of former years, it is found that June to Sep-

Seasonal incidence of deaths from Violence in 1887. .

TOWNS.	Ratio per mille.	RURAL CIRCLES.	Ratio per mille.
Bitamarhi in Mozufferpore ...	1·46	Canning in 24-Pergunnahs ...	1·26
Rangpur ...	1·27	Kulpi in ditto ...	1·14
Benaulah in Rajshahye ...	1·26	Tegra in Monghyr ...	1·14
Sewan in Sarun ...	1·12	Sundip in Noakhali ...	1·13
Revilganj in Sarun ...	1·12	Sujaganj in Murshidabad ...	1·07
Barrisal in Backerganj ...	1·03	Kisanganj in Nuddes ...	1·03
Jessore ...	1·05	Tanduah in Hazaribagh ...	1·02
Shekura in Monghyr ...	1·03		
Monghyr ...	1·02		

and even in them it will be observed how little the ratios vary.

79. In the **Port of Calcutta** eight European seamen were drowned, but no deaths from violence are chronicled either among them or among the native floating population.

Mortality from Violence in the Port of Calcutta.

OTHER CAUSES.

80. The casualties grouped under the heading "Other causes" were 204,813, with a ratio of 3·09 per 1,000. This is an advance from 190,818, ratio 2·88 in 1886, or 169,390, ratio 2·56 in the five-year period 1882-86.

Mortality from "Other causes" in 1887.

The registration of such events is therefore gradually progressing.

81. I give marginally a table which shows the districts, towns, and

Areas of greatest suffering from mortality from unspecified causes.

DISTRICTS.	Ratio per mille.	TOWNS.	Ratio per mille.	RURAL CIRCLES.	Ratio per mille.
Puri ...	14·72	Gya ...	18·14	Banpur in Puri ...	20·54
Backerganj ...	7·83	Puri ...	13·63	Khurda in Puri ...	17·09
Sarun ...	7·63	Pubna ...	13·23	Puri in Puri ...	14·03
Birbhum ...	5·99	Bettiah in Chum- parun ...	12·79	Mathbariah in Backer- ganj ...	12·66
Balasore ...	5·52	Serampore ...	12·55	Golachipa in Backerganj ...	11·55
		Jamshpore in Monghyr ...	12·31	Gope in Puri ...	11·42
		Sewan in Sarun ...	11·87	Barwali in Sarun ...	11·39
		Suburbs of Calcutta ...	11·63	Bhandaria in Backerganj ...	11·31
		Kendrapara in Cuttack ...	11·08	Lodma in Lohardugga ...	11·20
		Bhagnipore ...	10·02	Jogonath dihi in Tipperah ...	11·02
		Brahmanbaria in Tipperah ...	9·97	Baragaon in Sarun ...	10·98
				Pipli in Puri ...	10·57
				Dinapore in Patna ...	10·52
				Bauphal in Backerganj ...	10·44
				Perozepur in ditto ...	10·25
				Chupra in Sarun ...	10·01
				Jhalakati in Backerganj ...	9·72
				Banki in Cuttack ...	9·59
				Busta in Balasore ...	9·29
				Choria in Lohardugga ...	9·07

last year, when it also stood first in the list of rural areas. Gya is the town which suffers most.

82. Eight European seamen were affected with heat apoplexy or sunstroke in the year under review, and four died, giving a death-ratio per mille of the average strength in the Port of 2·10 contrasted with nine cases and six

European Seamen. Mortality from Heat apoplexy or Sunstroke.

deaths, ratio 2·58 in 1886.

land during the year to swell the mortality under this head. A table of mortality from different kinds of injury for the year under review and the preceding decade is marginally placed, and shows that as before accidents caused the greatest number of casualties, followed pretty closely by snake-bite and the attacks of wild animals. Suicides come next, those of females largely predominating, and wounds are an infrequent death cause.

September afforded the greatest number of casualties in the year under review, the number being 14,586, against 12,044 in the remaining eight months. I give marginally the areas of greatest loss of life from injury in towns and rural circles,

rural circles which registered the highest mortality from "Other causes." It must be understood that the record is not a very reliable one, and depends much upon the opinions of the reporting and registering officers. Puri and Backerganj districts head the lists of mortality, and the rural area of Banpur in Puri presents the excessive ratio of 30·54 per 1,000, against 25·51

83. Only four cases of scurvy were treated against seven the year before, with no loss of life in either year. The above
Scurvy. four cases were all admitted to hospital from one ship which came from New York, and had two kinds of limejuice on board, one supplied under the rules of the Board of Trade, and the other locally manufactured and purchased in New York, which was pronounced by the Chemical Examiner to be of weak quality. This disease has been steadily diminishing since 1884.

84. From other causes 1,201 European seamen were admitted to hospital, and there were 16 deaths, five of which occurred
Other causes. out of hospital. The death-rate is 8·45 per mille of average strength, against one of 17·19 per 1,000 in 1886. Among the Native floating population 21 persons perished from other causes, or at the rate of ·84 per 1,000 of population, against 23 deaths, rate ·90 in 1886.

SECTION VII.

GENERAL HISTORY OF VACCINATION.

85. In the Government of India, Home Department Resolution No. 28—

1579-95, dated the 15th July 1887, it is ordered that the Sanitation and Vaccination Reports are to be submitted separately; the latter every third year in full; statistical tables with notes being submitted in the intervening years; and in Bengal Government letter No. 1170P of the 28th March 1888, I am instructed that a few brief remarks on the results of vaccination may, however, be incorporated with advantage in the Sanitation Report. In accordance with these orders the annual vaccination statements are attached as Appendix VII, and a few notes on the working of the Department, and results obtained during the official year 1887-88, are here given.

86. The number of the Superintendents remained the same as the year before, but in the establishment some important changes were made. A Deputy Superintendent was added to the Ranchi Circle, and the Government establishment therein abolished; and another Deputy Superintendent was appointed to the Behar Circle to supervise the licensed vaccinators. In the Sonthal Pergunnahs Circle, the services of the Government vaccinators were dispensed with, and the licensed system introduced throughout the circle. A very considerable increase took place in the number of licensed vaccinators employed, amounting to 130, throughout the Province, coincident with the extension of the licensed system.

87. The conduct of the establishment has been generally satisfactory, with a few notable instances to the contrary. Among the Deputy Superintendents, chiefly men of the Assistant Surgeon class, one is under suspension for very grave offences, and the matter is before Government. Other Assistant Surgeons did not conduct their duties according to departmental rules on the subject. The mode of recruitment of these men from the Medical Department as exigencies arise does not give satisfactory results. Young Assistant Surgeons, who volunteer for the Sanitary Department, should be attached to it from the time of their joining the service, and should continue in it as a permanent sphere of duty.

88. Vaccination was maintained in the areas comprised within the town of Calcutta, and in the Metropolitan, Darjeeling, Ranchi, and Sonthal Pergunnahs Circles. In the Eastern Bengal Circle, besides the districts already overtaken, it was introduced in the remaining thanahs of the Backerganj district, the Chittagong district only remaining untouched within its limits. In the Behar Circle, the northern half of the Gya district was overrun by the Government establishment, while Patna and Shahabad districts were attended to by licensed vaccinators under the supervision of a new Deputy Superintendent. Four districts north of the Ganges still remain unvaccinated. In the Orissa Circle, the Government establishment protected three thanahs of the Puri district for the first time, and the licensed system was extended to two other thanahs and to four thanahs in Cuttack. The Balasore district still remains to be dealt with systematically.

89. The marginal table exhibits municipal and other areas vaccinated and contrasts the number of operations performed with those of the previous year. The serious falling off in Sudder municipalities will be observed with regret, indicating want of attention to this duty on the part of medical officers.

AREAS.	Number of institutions.	Number of operators.	Number of operations performed in—	
			1887-88.	1886-87.
Sudder municipalities ...	48	89	40,197	46,705
Outlying towns ...	95	105	35,342	29,507
Cantonments ...	4	5	1,792	1,858
Dispensaries ...	19	18	3,321	3,800
Jails ...	6	6	132	283
Other places (Saidpur, N. B. S. R.) ...	1	5	107	6,423
Total ...	169	223	78,961	88,101

In the 168 institutions detailed, there was a falling off of 9,140 operations, and individually considered 72 of them returned less work, while 84 returned more and one had an equal number of operations. The largest decrease is found in Monghyr, Mozufferpore, Gya, Howrah, Patna, Arrah and Behar Towns. The proportion per cent. of population vaccinated is 3.50 for males and 2.98 for females. Each of the 223 operators vaccinated 354 persons.

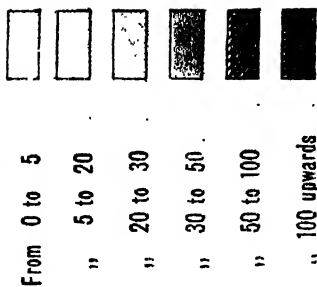
90. The work of the year was generally started throughout the Province with bovine lymph, supplemented by supplies from England and from the hills. The animal vaccination depôt in the suburbs of Calcutta, under the supervision of the Superintendent of the Metropolitan Circle, is the source whence bovine lymph is distributed, but it was also propagated through the calf by the Superintendent of the Orissa Circle at Cuttack. From the depôt 147 vaccinated calves were sent to the Calcutta Corporation, and 40 to the suburbs out of the 268 calves vaccinated. Of the whole number, only one was a failure on account of the calf being suddenly attacked by violent diarrhoea. The Superintendent says that calf lymph is now much appreciated by the people; the numbers attending the stations being large on the days when calves were present. Besides the provision of calves, the depôt answered private calls, and 617 operations were performed at the Fort William Garrison Dispensary, among the camp-followers at Hastings, the servants at Belvédère, the station hospital at Dum-Dum, and elsewhere. No less than 4,625 charged tubes were sent to the Sanitary Commissioner's Office for distribution, in addition to those sent out direct by the Superintendent on urgent request. The depôt, it will be seen, is a most useful institution, and similar ones on smaller scale should be kept up in large municipalities, such as Patna, Gya, Dacca, &c. Till this is done, difficulties in providing fresh lymph will continue. Some experiments towards the better storing of lymph in tubes were tried by Surgeon-Major Gupta, but the results were not encouraging. The rates of success from the use of bovine lymph in primary cases was 81.96 in Calcutta, 94.25 at the depôt, 95.22 in the suburbs of Calcutta, and 98.27 in the Orissa Circle. When stored in tubes, the rate of success varied very greatly, dependent on several circumstances from 91.51 in Orissa to 8.33 in a small number of cases done in the Darjeeling Circle. When transmitted, however, from arm to arm in a large number of cases throughout the Province generally, the rate of success was 98.93 in primary, and 34.29 in secondary, operations. The character of the vesicles and resulting crusts is said to have been typically characteristic. The supplies of lymph received from England are favourably reported on. The majority of vaccine operations are done by arm-to-arm transmission of lymph. When this is not practicable, lymph stored in tubes or between glasses is employed, and very rarely crusts.

91. The total number of vaccinations performed during 1887-88 were 1,718,655, an increase of 108,378 as compared with the previous year. Calcutta, the Metropolitan, the Eastern Bengal, Orissa and Behar Circles show a greater amount of work, while the Darjeeling, Ranchi and Sonthal Pergunnahs Circles and the Municipalities give a smaller outturn. Operations in the Darjeeling Circle were affected by changes and misconduct among the supervising staff, and in the Ranchi and Sonthal Pergunnahs Circles by the abolition of the Government establishments formerly employed. The shaded map which faces this page shows the incidence of vaccination operations in the several districts of Bengal during the year 1887-88. During the recess 15,388 vaccinations were done to keep alive supplies of lymph, to suppress small-pox, and preserve as complete protection as possible in the Suburbs of Calcutta.

Map of the LOWER PROVINCES OF BENGAL SHOWING THE INCIDENCE OF VACCINATION OPERATIONS during 1887-88.

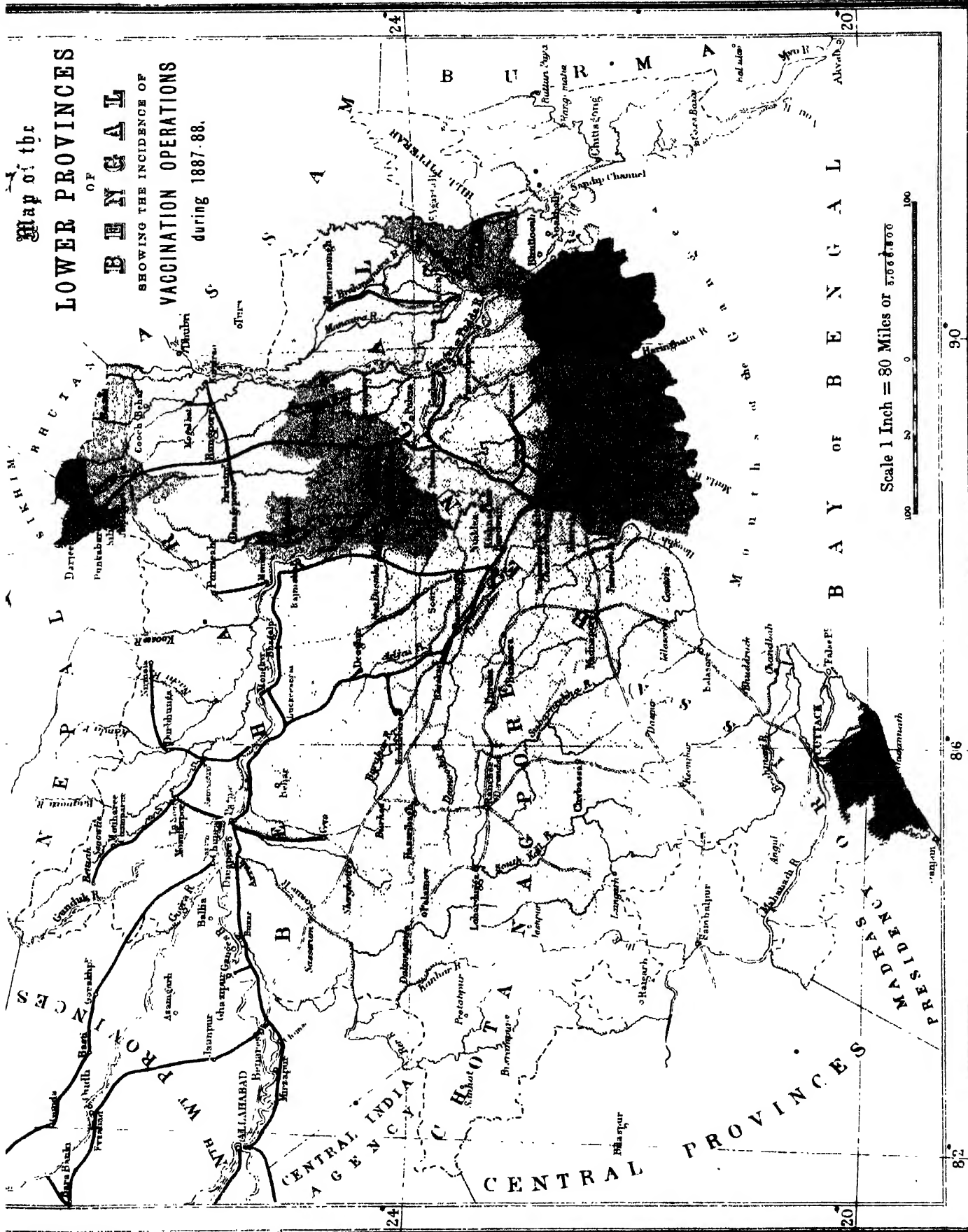
REFERENCES.

Districts in which the number of operations per 1,000 of the population ranged—



NOTE.

In the six districts in which the number of operations ranged from 0 to 5, vaccination was carried on only in the Towns. The rural areas in those districts were not taken up by the Vaccination Department during 1887-88.



Scale 1 Inch = 80 Miles or 5000000

92. The marginal table shows the number of primary and secondary operations with the rates of success obtained in each circle separately and in the municipalities and dispensaries, &c. The percentages of success in primary cases vary from 93.60 to 99.96, 99.11 being the average for the whole Province. In secondary cases, in some instances, the numbers were so small as to afford no reliable results stated as percentages; but in Calcutta and its suburbs, where re-vaccination is extensively practised, the rates of success were from 14.84 in the former to 43.77 in the latter.

Number of Primary and Secondary operations and rates of success achieved under both heads.

CIRCLES.	PRIMARY.			SECONDARY.		
	Total number of operations in 1887-88.	Number of successful operations in 1887-88.	Ratio per cent. of successful cases in 1887-88.	Total number of operations in 1887-88.	Number of successful cases in 1887-88.	Ratio per cent. of successful cases in 1887-88.
Calcutta	9,809	8,259	98.60	1,045	132	14.84
Metropolitan Circles	391,912	390,971	99.80	100	40	40.00
suburbs of Calcutta, including Central Vaccination Depot and Cooly Depôts	8,763	8,174	97.48	3,397	1,110	43.77
Total of Metropolitan Circles ...	400,675	399,145	99.75	3,497	1,150	43.62
Darjeeling Circle ...	274,876	273,790	99.96	38	29	82.86
Ranchi " ...	144,782	141,658	97.84	8	4	50
Southal Pergunnahs " ...	108,940	108,878	99.77	124	176	83.54
Eastern Bengal " ...	540,467	539,950	99.93	2	2	100
Orissa " ...	84,995	80,426	94.77	34	5	14.70
Behar " ...	70,344	68,826	98.50	60	10	20.00
Total of Vaccination Circles ...	1,634,888	1,620,672	99.33	4,806	1,464	37.38
Municipalities, dispensaries, &c. ...	77,409	72,282	94.53	1,552	940	61.80
GRAND TOTAL ...	1,712,297	1,692,954	99.11	6,358	2,394	44.25

93. The average number of operations per vaccinator is 724, an advance of 37 per man over last year. In the circles the average was 762, and in municipalities and dispensaries 354. The Eastern Bengal Circle heads the list with 1,049 against 739 in 1886-87.

Average number of operations performed by each vaccinator.

94. Of the persons vaccinated during the year, 851,892 were males and 787,802 were females, being in proportion according to population of 3.19 per cent. for males and 2.93 per cent. for females.

Sex of the vaccinated.

95. During the year, 5,114 Christians, 935,986 Hindus, 728,751 Mahomedans, and 48,804 of other classes, were vaccinated.

Vaccination according to class or religion.

	RATES PER CENT. TO POPULATION. *			
	Christians.	Hindus.	Mahomedans.	Other races.
In the vaccination circles	3.93	2.69	3.74	3.66
In the municipal areas	5.40	3.15	3.39	6.43
Total ...	4.16	2.71	3.73	3.68

96. Among primary operations in the circles, children under one year formed 14.02, of one year and under six 66.99, and of six years and above 18.97 per cent. of the total vaccinated. The vaccination of infants shows a slight improvement over last year. The rates vary from 42.81 and 36.28 in Calcutta and its suburbs to 7.49 and 4.40 per cent. in the Eastern Bengal and Orissa Circles. Rapid improvement under this head must not be looked for in mofussil areas, the prejudice against infant vaccination being still very strong.

Vaccination according to age.

97. The total number of villages visited by the supervising officers in the circles was 40,796, or 86.76 per cent. of the total vaccinated. The Superintendents visited 4,477, the Deputy Superintendents 4,628, and the Superintending Vaccinators 31,691 villages. This is exclusive of Calcutta and suburbs. There was deficient inspection by Deputy Superintendents in the Behar, Darjeeling, and Eastern Bengal Circles, especially in the last circle, where the ratio is only 2.85 per cent. of total vaccinated, and the inspection of the 3rd Metropolitan Circle was irregularly conducted.

Degree of supervision exercised by inspecting officers.

98. The total cost of vaccination for the year 1887-88 was Rs. 1,57,846-8-2, an increase of expenditure over the previous year of Rs. 3,262-2-6. The cost of vaccination in Calcutta was borne by the Corporation and in the suburbs by its Corporation, with the exception of the pay of the Deputy Superintendent, which is met by Government. Other municipalities contributed Rs. 12,437,5-7, and the cost to them of each successful case was Re. 0-2-9. In Calcutta, each successful case cost Re. 1-0-3; in the suburbs Re. 0-14-2, while in the circles generally the cost Re. 0-1-5. Throughout the Province the expenditure on each successful case was Re. 0-1-6.

99. A sum of Rs. 438-7 was also spent on vaccination by the Maharajah of Durbhunga, the zemindar of Chagdighi, and from various dispensary funds. Licensed vaccinators were also allowed to practise in 14 towns and to recover their own fees.

100. During the year under review, the licensed system of vaccination was extended throughout the Ranchi and Sonthal Pergunnahs Circles, and the Government operating establishments dispensed with. Licensed vaccinators were also appointed in seven thanahs of the Backerganj, in five thanahs of the Shahabad, in four thanahs of the Cuttack, and in two thanahs of the Puri districts.

101. The Superintendents generally report that the attitude of the people towards vaccination is gradually tending to improve, but that in areas newly taken up for operation, opposition is still active, and at times impossible to overcome. In the Backerganj district, the system of agitation usual in Lower Bengal was used against vaccination, and petitions and telegrams were sent to Government. Much of this arose from the idea that compulsory vaccination was being introduced. The agitation seems to have quite subsided before the end of the season, and much success was obtained by the Superintendent in popularizing and carrying on his work. In Gya the Superintendent made little progress, and found all the better classes against him. Hindus were the chief opponents. In Orissa too, Brahmins, Pandas and other Hindus were opponents, and the Act forbidding inoculation not being in force in much of the area taken up, the inoculators were active in opposition. Voluntary assistance to vaccination, however, is frequently recorded. In the Murshidabad and Birbhum districts, the long sustained opposition of the Ferazis is being steadily overcome. Progress was made in many villages.

102. Act V (B.C.) of 1880 was extended to forty towns during the year, and has been worked with more or less efficiency. In the smaller municipalities its provisions are little utilized, but it only requires that Civil Medical Officers and Superintendents should pay proper attention to the subject to bring about a complete and efficient state of protection in the towns where the Act as amended is in force. In Calcutta the Health Officer of the Corporation reports that difficulties still arise in the case of a number of up-country opponents to vaccination, residing as they do in one house. When vaccinators discover unprotected children, the different persons resident deny knowledge concerning the parentage of the children, and no one will receive notices or summonses concerning them. Among the lower classes, these difficulties, however, do not arise. Altogether there were 1,437 prosecutions under the Act during the year. The Health Officer of the Port, in his report already submitted to Government, has indicated the practical difficulty of vaccinating large numbers of persons arriving in small pox affected ships, without having some depôts on shore through which they must pass. In the Suburbs, 8,063 notices and 640 summonses were issued, and 331 persons were fined. In Howrah 2,277 notices were served, 76 summonses were issued, and 57 persons were fined. In fact the issue of the notice is generally all that is required. After its receipt, there is compliance with the requirements of the law. In the town of Nator in Rajshahye, where the richer people declined vaccination, the provisions of the Compulsory Act were brought to bear on three influential residents, and two were fined. In old Maldah town, when the

Superintendent arrived in December, vaccination was practically at a standstill. He had 30 notices issued to the most influential residents who had unprotected children. Summonses required to be issued to all of them before they complied. In the town of Patna, 106 notices were issued to persons who objected to get their children vaccinated, but only 88 of these notices were actually served, and the results were not satisfactory. The people generally are still more or less opposed to vaccination, and in various ways obstruct the working of the law; but there is said to be less opposition now than heretofore, and all that is required is a little more pressure upon the people, who should be made to understand that the law must be obeyed. The chief reason why vaccination is so backward in Patna is the apathy and indifference of the municipality in the matter, and the incompetence of the subordinate vaccination staff, the reorganization of which is at present under consideration. In the town of Gya, vaccination was received by all classes with feelings of aversion and hostility, the higher classes among both Hindus and Mahomedans being less hostile to the measure than the masses of the people. The compulsory law on the subject was on the whole satisfactorily administered. Only 170 cases were sent up to the Magistrate for prosecution, in all of which the people were let off with a warning after being served with notices to have their children vaccinated within a fixed time. In the town of Arrah, the feelings of the people against vaccination, although still strong, are less so than formerly, and vaccination is making steady progress. It is mostly resisted by Rajputs and Mahajuns. In Durbhunga town, the lower classes of the people raise no objection to vaccination, and the middle and upper classes also accept it, though they do not like it. The class of people most opposed to vaccination are the Agarwalahs and the Marwaris. During 1887-88 a large number of evasions to comply with the requirements of the law were brought to the notice of the civil authorities, and the offenders were in all cases suitably dealt with. The Civil Surgeon, however, thinks that on the whole the town is fairly protected, and this conclusion is borne out by the fact that the mortality from small-pox during the year was only eight, or about half as much as in the year before. Mozufferpore town seems to be getting fairly protected, as the death-rate from

1887-88. 1886-87. 1885-86.
5 18 38

small-pox noted in the margin shows. More, however, in this direction could have been done if the provisions of the Compulsory Vaccination Act had been properly carried out. The Registrar of Births is reported to have failed to regularly issue notices till nearly the end of December. Only five notices were issued from the Civil Surgeon's office, and in each case they had the desired effect. The Act was introduced into the town of Motihari during 1887-88, but was not properly administered. A very small number of notices were issued, and even these were often disregarded, and although the cases were reported to the Chairman of the Municipality, no person was prosecuted up to the close of the season. Only 240 persons were

vaccinated during the year, out of a population of 10,307, although no opposition was met with from the people. The amount of protection afforded in this town is therefore very small. The Compulsory Vaccination Act was also introduced into the Bettia Town during 1887-88, and was received by the people without any active opposition. They flocked to the doors of the vaccination depôt with their children as soon as the notices were served on them. The Marwaris at first showed a prejudice against vaccination, but it was soon overcome, and without difficulty. The Act appears to have worked well in this town. On the whole, considerable progress was made during the year, and the Municipal Commissioners are reported to have begun a more active administration of the law, to have opened depôts, and to have caused the issue of notices and summonses. Some municipalities, however, are still recalcitrant and neglect the administration of this most useful law.

103. The following table will show the progress of vaccination and its

Influence of vaccination on small-pox. result on the prevalence of small-pox during the last six years.

	NUMBER OF AREAS WHICH WERE UNDER VACCINATION IN						DEATH-RATE FROM SMALL-POX PER MILLION OF POPULATION.					
	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1887-88.
Areas under vaccination...	399	430	463	472	468	507	13	13	15	08	03	04
Do. not under vaccination ...	180	149	116	107	91	73	20	25	55	28	16	16

SECTION VIII.

SANITARY WORKS (MILITARY).

104. Information under this head is not required from the Sanitary Commissioner for Bengal.

SECTION IX.

SANITARY WORKS (CIVIL).

105. In the table below information is given concerning the income of the 139 municipalities in the province, and the manner in which it was spent during the year under consideration:—

DISTRICTS.	Number of Municipalities.	Income in 1887, including balance from the last year.	PERCENTAGE OF INCOME EXPENDED ON—						DISTRICTS.	Number of Municipalities.	Income in 1887, including balance from the last year.	PERCENTAGE OF INCOME EXPENDED ON—					
			Sanitary works.		Roads.	Sanitary works, including roads.	Police.	Other requirements.				Sanitary works.		Roads.	Sanitary works, including roads.	Police.	
			1887.	1886.								1887.	1886.				
		Rs. A. P.									Rs. A. P.						
Burdwan	6	1,35,805 0 0	31'82	43'24	14'88	40'70	...	31'01	Noakhali	1	6,363 3 0	44'14	42'27	9'88	54'01	...	...
Bankura	3	32,663 14 1	20'72	25'75	12'72	30'44	...	40'22	Tipperah	2	25,035 0 0	37'13	39'17	17'87	55'00	...	...
Birbhum	1	8,596 8 11	51'05	42'90	5'09	57'35	...	12'30	Patna	3	1,51,684 6 1	35'14	39'23	30'87	06'01	...	...
Midnapur	6	58,663 11 7	49'89	54'00	10'19	60'09	...	24'03	Gya	2	74,452 15 10	45'67	46'52	9'88	55'56	...	...
Hughli and So- rampore	8	1,59,856 15 8	35'70	31'11	15'91	51'01	...	24'84	Shahabad	4	64,512 0 0	42'31	45'73	19'43	61'75	...	...
Howrah	2	3,32,609 7 11	41'14	31'09	20'33	61'87	3'34	22'13	Mozufferpore	6	54,254 1 0	28'35	29'67	31'77	60'13	...	...
L. Pargunnahs	16	7,52,372 0 0	33'31	33'55	18'21	51'53	4'90	22'78	Larbhunga	3	63,814 11 4	33'40	34'57	22'27	55'68	...	...
Nuddea	9	95,128 2 0	34'90	35'93	21'87	50'77	...	33'79	Sarun	3	83,794 11 5	51'03	51'31	6'07	57'70	...	...
Jessore	3	24,892 4 6	34'63	38'71	12'34	46'98	...	11'68	Chumpran	2	21,308 13 0	48'82	47'14	9'43	58'20	...	...
Murshidabad	4	97,923 3 5	43'68	42'50	11'29	54'96	...	17'08	Monghyr	3	62,302 0 0	49'61	46'03	18'70	68'38	...	...
Khulna	4	15,655 3 2	18'40	17'91	25'95	44'42	...	17'09	Bhagulpore	2	93,934 0 0	60'05	38'28	18'62	78'68	...	...
Dinajpur	1	38,438 7 6	54'40	47'66	11'42	65'92	...	18'54	Purneah	2	20,211 2 8	21'92	33'09	42'40	61'32	...	...
Rajshahye	2	37,718 2 8	43'48	42'41	14'74	58'23	...	22'22	Maldah	2	14,555 11 3	27'28	30'89	23'00	50'34	...	...
Rangpur	1	20,982 14 3	30'71	30'35	9'74	48'25	...	19'01	Sonthal Pergun- nahs	2	17,138 4 6	48'04	51'25	1'83	62'87	...	...
Bogra	2	15,790 0 0	24'66	26'66	16'55	41'42	...	41'12	Cuttack	3	51,253 7 11	34'85	34'67	14'00	48'89	...	...
Pubna	2	33,955 4 11	49'12	40'43	...	43'7	...	24'31	Puri	1	55,845 2 6	43'44	40'07	5'48	48'90	...	...
Darjeeling	2	1,51,264 4 9	39'31	46'64	...	47'7	...	11'56	Balasore	1	14,479 1 9	41'33	35'18	29'59	71'33	...	...
Jalpaiguri	1	16,040 9 11	45'75	43'40	...	48'50	...	6'88	Hazaribagh	2	17,888 13 1	50'85	64'37	13'77	61'82	...	...
Dacca	2	1,67,253 15 1	60'25	58'54	13'60	72'92	...	8'31	Lohardugga	1	15,390 7 11	36'66	41'93	34'59	71'46	...	...
Faridpur	2	18,803 8 4	51'15	38'26	20'06	71'22	...	11'90	Singbhum	1	3,753 10 11	30'18	52'90	15'06	51'84	...	...
Buckerganj	4	37,116 0 0	45'28	51'73	15'23	60'52	...	15'47	Manbhum	1	10,160 4 9	53'64	51'09	4'53	63'17	...	...
Mymensingh	8	50,533 7 5	30'39	30'85	16'64	47'04	...	10'87									
Chittagong	2	37,184 0 0	32'80	30'27	30'08	63'78	...	25'74	GRAND TOTAL	139	32,63,614 2 10	39'75	38'65	17'17	56'03	1'45	

There has been a very sensible increase of income over the preceding year, amounting to Rs. 1,79,043, but two additional towns have been constituted municipalities. The percentage of expenditure in 1887 on sanitary works exceeds that of the year before by 1'10, that on roads is slightly lower; but on sanitary works, including roads, 31 higher. Only in Howrah and the Suburbs of Calcutta do the towns contribute anything to the maintenance of the police, and that a small proportion.

106. From the marginal table it will be seen that the total sanitary ex-

Heads of expenditure.	Total expenditure.		Difference of 1887.	
	In 1887.	In 1886.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
On Conservancy, including latrines	3,84,189	3,60,591	23,598	.....
Establishment ...	3,35,270	3,41,433	.....	6,163
Drainage ...	1,02,021	76,280	27,352	.....
Water-supply ...	86,112	81,237	4,875	.....
Disposal of dead ...	5,558	6,028	.....	1,068
Markets and slaughter-houses	11,586	7,489	4,097	.....
Vaccination ...	17,172	14,965	2,207	.....
Treatment of the sick ...	2,02,726	1,98,804	2,922	.....
Other sanitary works	1,52,149	1,04,975	47,174	.....
Total	12,97,383	11,92,380	1,04,994	.....
On construction, maintenance and repair of roads	5,60,653	5,54,539	6,114	.....
Total including roads	18,58,036	17,46,919	1,11,106	.....

penditure, omitting the construction, maintenance and repair of roads, amounting during the year to Rs. 12,97,383, which exceeds that of 1886 by Rs. 1,04,994, and that including the sum spent on roads, the total excess will be Rs. 1,11,103, a very considerable advance. Under all the heads, except "Establishment," and "Disposal of the dead" larger sums were spent. I regret to ob-

serve the diminution under the latter head, as Mussulman burial-grounds are an urgent sanitary want, especially in Lower Bengal, and it is one Municipal Commissioners seem little inclined to meet. Details of all sanitary expenditure will be found in Appendix No. III attached to this report, which has this year been drawn up in such a manner that reference to it will be much more easy than in the similar statements attached to former reports.

107. In the preceding paragraph the sum expended on all Sanitary works Expenditure on Original Sanitary Works. has been considered, but in Appendix No. IV are shown the percentages of income expended in each town for Original Sanitary works, for those of an annually recurring kind, and for all municipal expenditure proper. In the following table will be found the names of 21 towns which expended a fair amount of income on Original Sanitary works, calculated to bring about a permanently higher health status, the percentages varying, however, from 48·63 to 17·07 per cent. These are contrasted with percentages of expenditure, which must yearly be incurred on Sanitary works, and with those of municipal expenditure proper. Only two of the towns given in the list are sudder towns:—

DISTRICT.	Names of Towns.	Percentages on Original Sanitary works.	Percentages on Sanitary works of an annually recurring nature.	Percentages on all municipal expenditure proper.
24-Pergunnahs	North Barrackpore Town	48·63	20·88	30·40
Mauerpore	Lalganj ditto	47·02	15·24	35·67
Bhagulpur	Bhagulpur ditto	31·21	48·93	15·30
Nuddea	Santipore ditto	30·96	18·03	48·17
Dacca	Narsinganj ditto	28·61	33·70	16·55
Sarun	Sewan ditto	28·41	6·49	28·86
24-Pergunnahs	Rajpur ditto	27·53	32·13	19·62
Bankura	Bishenpur ditto	26·94	30·40	20·03
Shahabad	Nasacram ditto	24·76	30·11	23·72
24-Pergunnahs	Baraset ditto	24·61	45·52	27·99
Mozufferpur	Hajipur ditto	24·28	40·15	30·23
Midnapur	Ghatal ditto	20·70	30·48	44·34
Pubna	Pubna ditto	18·92	41·81	37·17
Nuddea	Meherpore ditto	18·89	38·51	30·95
Sonhal Pergunnahs	Sahebganj ditto	18·84	55·47	21·73
Monghyr	Jamui ditto	18·73	19·14	32·79
Hughli	Ishuddressur ditto	18·23	42·00	30·21
Nuddea	Kushitca ditto	17·96	29·05	35·83
Sarun	Revilkanj ditto	17·01	30·11	47·34
Hughli	Serampore ditto	17·15	31·01	27·12
Pubna	Serajganj ditto	17·07	40·23	29·85
Total	21 Municipalities.			

The table below contains a list of 26 towns, 12 of which are Sudder towns, which allotted a tolerable amount of income for original sanitary works, the percentages ranging from 16·63 at Purneah to 10·12 at Arrah:—

DISTRICT.	Names of Towns.	Percentages on Original Sanitary works.	Percentages on Sanitary works of an annually recurring nature.	Percentages on all municipal expenditure proper.
Purneah	Purneah Town	16·63	48·18	26·98
Mymensing	Kishoreganj "	16·10	28·47	54·66
Noakhali	Noakhali "	15·48	28·85	15·76
24-Pergunnahs	Nyohatti "	14·89	22·62	24·33
Patna	Behar "	14·87	44·75	22·32
Cuttack	Cuttack "	14·76	34·52	43·53
Ditto	Kendrapara "	14·76	37·12	37·30
Hughli	Utterparrah "	14·75	31·72	32·35
Balasore	Balasore "	14·02	66·69	25·05
Gya	Gya "	13·46	40·89	59·83
Durbhunga	Madhubani "	13·30	52·47	17·01
Rhulna	Debhatta "	12·81	37·05	45·80
Mymensing	Museerabad "	12·47	14·38	14·07
Puri	Puri "	12·34	56·24	27·72
24-Pergunnahs	Karanagur "	11·94	50·22	30·70
Mozufferpur	Mozufferpur "	11·81	49·48	37·63
Monghyr	Monghyr "	11·57	59·01	25·99
Gya	Daudnagar "	11·56	41·37	25·79
Nuddea	Nuddea "	11·04	30·36	41·99
Hughli	Baidyabatti "	10·93	40·94	43·40
Durbhunga	Durbhunga "	10·79	43·56	22·75
Howrah	Howrah "	10·72	51·78	27·81
Nuddea	Kanaghat "	10·64	55·07	25·04
Mymensing	Muktagacha "	10·45	21·71	23·06
Howrah	Balli "	10·43	24·18	62·21
Shahabad	Arrah "	10·12	59·68	28·55
Total	26 Towns.			

In the following table are exhibited a long list of 67 towns, 25 of which are Sudder towns, in which insignificant percentages of income from 9-91 to '13 were spent on Original Sanitary works:—

DISTRICTS.	Names of Towns.	Percentages on Original Sanitary works.	Percentages on sanitary works of annually recurring nature.	Percentages on all municipal expenditure proper.
Saran	Obupra	9-91	52-73	51-29
Hurdwan	Bariganj	9-91	35-83	13-39
Backerganj	Hurrisal	9-90	43-08	19-57
Nudda	Birnagar	9-47	16-11	59-35
Faridpur	Faridpur	9-40	70-31	18-44
Itajshahye	Rampur Bauleah	8-95	59-94	22-00
Khulna	Khulna	8-94	61-29	15-72
Rangpur	Rangpur	8-83	37-43	27-77
Murshidabad	Kundi	8-71	37-67	31-73
Monahye	Jamulpur	8-00	61-95	28-53
Jessore	Kotehandpur	7-96	20-73	38-97
Maldah	Old Maldah	7-71	44-61	39-51
Khulna	Satkhira	7-11	32-80	27-42
Hazaribagh	Hazaribagh	6-74	12-24	27-84
24-Perennials	South Dum-Dum	6-65	17-47	15-39
Hughli	Bansberah	6-42	32-47	67-07
24-Perennials	Bussirhat	6-20	22-30	52-70
Tippurah	Brahmunberiah	6-10	45-98	36-04
24-Perennials	Goburdanga	5-87	53-84	34-53
Ditto	Suburbs of Calcutta	5-84	43-59	35-79
Backerganj	Persepur	5-59	49-84	42-43
Burdwan	Kalna	5-53	20-97	42-90
Ditto	Dalbat	5-38	35-15	40-19
Dacca	Dacca	5-37	71-29	19-51
Bankura	Bankura	5-13	58-40	28-51
Mymensing	Netrokona	5-03	25-43	8-90
Shahabad	Dumraon	5-02	40-86	41-63
Faridpur	Madanpur	4-98	55-22	32-26
Patna	Patna City	4-96	62-04	30-20
Backerganj	Jhalokati	4-91	13-35	68-09
Midnapur	Ramjibunpur	4-87	51-07	49-07
Ditto	Tumuk	4-82	47-08	49-74
Darjeeling	Darjeeling	4-49	44-59	29-49
Dinajpur	Dinajpur	4-43	61-40	21-59
Mymensing	Sherepur	4-24	24-06	62-74
24-Perennials	South Suburban	4-23	66-23	25-92
Birbhum	Suri	3-93	53-43	19-73
Chunparan	Bettiah	3-92	59-21	22-06
Darjiling	Kurseong	3-71	39-19	17-00
Hughli	Kotrung	3-64	38-53	35-64
Murshidabad	City Murshidabad	3-63	43-41	12-91
Bogra	Bogra	3-50	55-11	55-41
Gya	Tikari	3-07	24-01	28-50
Midnapur	Midnapur	2-93	65-32	27-39
Shahabad	Jadispur	2-80	33-89	31-90
24-Perennials	South Barrackpur	2-60	58-88	36-52
Bogra	Sherepur	2-60	45-32	40-26
24-Perennials	Barrapara	2-31	48-59	33-66
Nudda	Kumarkhali	2-18	35-64	28-15
Hughli	Hughli and Chinsurah	1-89	54-23	40-78
Maldah	English Bazar	1-68	48-08	39-64
Khulna	Chanduria	1-60	18-12	48-99
Murshidabad	Berhampur	1-59	68-40	19-92
Midnapur	Chunderkona	1-43	35-03	48-46
Jalpaiguri	Jalpaiguri	1-35	45-54	14-22
Shahabad	Bhubnah	1-31	33-93	64-40
Mymensing	Jamulpur	1-00	22-83	35-44
Shahabad	Buxar	1-04	66-56	31-41
Chunparan	Motihari	.78	51-03	47-40
Burdwan	Burdwan	.77	40-94	41-64
Backerganj	Nalchitti	.76	23-58	23-16
Murshidabad	Jangpur	.75	59-38	29-80
Midnapur	Khirpai	.74	53-15	32-01
Nudda	Kishnagar	.59	81-02	15-47
Jessore	Jessore	.56	55-41	22-31
Chittagong	Chittagong	.50	66-52	33-10
Bankura	Sonamukhi	.13	15-06	68-74
Total	67 Towns.			

In 25 towns no expenditure was incurred on these very necessary works.

108. The following abstracts compiled from Appendix No. III do not give all the figures on the several heads, in some cases information not being available in the district reports:—

Summary of Sanitary Works executed in Town and Districts and by private persons.

IN THE TOWNS.

(Carried out from Municipal Funds, and in a few cases from Road Cess Funds.)

No.	Nature of works.	Amount.	No.	Nature of works.	Amount.
	Drainage.	Rs.		Roads.	Rs.
42	Drainage schemes	4,400	172	Roads and lanes constructed	1,14,401
59	Pucca new drains constructed	17,228	81	Do. new metalled	32,498
3	Kutcha ditto	3,836	11	Do. improved	13,805
4	Drains improved	11,839	1	Portable railway constructed	80,000
194	Embankments constructed	1,628	28	Bridges constructed	9,017
	Culverts provided	13,366	11	Light posts provided	47
				Cutting and clearing of jungles	154
Total		52,297	Total		1,99,722

No.	Nature of works.	Amount. Rs.
<i>Conservancy.</i>		
82	Latrines (masonry, iron, kutcha and portable) constructed.	10,681
18	Urinals put up ...	465
3	Cesspools filled up ...	4,014
12	Conservancy buildings ...	2,377
139	Do. plant ...	5,889
	Total ...	23,426
<i>Disposal of dead.</i>		
1	Burial-grounds provided ...	875
2	Burning ghât provided ...	633
	Total ...	1,508
<i>Water-supply.</i>		
	Filtered water-supply schemes ...	27,893
5	Tanks excavated ...	4,444
2	Do. re-excavated ...	1,826
14	Spill drains to wells ...	199
33	Wells sunk ...	2,479
1	Khal excavated ...	814
8	Ghâts and bridges to tanks constructed.	1,774
3	Water reservoirs provided ...	197
	Total ...	39,625

No.	Nature of works.	Amount. Rs.
<i>Markets and slaughter-houses.</i>		
8	Markets constructed ...	5,648
8	Slaughter-houses constructed ...	4,621
	Total ...	10,269
<i>Medical relief.</i>		
7	Charitable dispensaries, hospitals for pilgrims, asylum for paupers and vaccine sheds.	16,340
<i>Miscellaneous.</i>		
	On land acquisition ...	2,776
	On public garden ...	851
	On municipal buildings ...	4,911
	On brick-making ...	754
	Total ...	9,292
	GRAND TOTAL ...	3,52,479

IN THE DISTRICTS.

(Carried out from Road Cess Funds, and in some cases from Government Funds.)

No.	Nature of works.	Amount. Rs.
<i>Drainage.</i>		
	Drainage schemes ...	29,692
3	Kutcha drains constructed ...	638
110	Embankments constructed ...	14,907
3	Culverts provided ...	1,329
	Total ...	46,566
<i>Water-supply.</i>		
20	Tanks excavated ...	13,185
1	Tank re-excavated ...	489
35	Wells sunk ...	5,698
2	Ghâts and bridges to tanks and khals.	4,504
8	Khal works ...	12,832
	Total ...	36,708

No.	Nature of works.	Amount. Rs.
<i>Roads.</i>		
19	Roads constructed ...	47,018
7	Do. metalled ...	19,663
6	Bridges constructed ...	35,020
	Maintenance of trees on roadsides	3,500
	Total ...	1,05,199
<i>Markets.</i>		
	Markets ...	505
<i>Medical relief.</i>		
	Dispensary buildings ...	500
<i>Buildings.</i>		
1	Inspection bungalow ...	400
	GRAND TOTAL ...	1,89,478

PRIVATE CHARITIES.

No.	Nature of works.	Amount. Rs.
<i>Drainage.</i>		
	Drainage schemes ...	5,000
	Do. works ...	1,332
5	Embankments ...	4,820
	Total ...	11,152
<i>Water-supply.</i>		
117	Tanks excavated ...	60,455
12	Do. re-excavated ...	9,970
	Cutting of a canal ...	322
4	Ghâts and bridges to tanks constructed.	1,345
103	Wells sunk ...	18,861
1	Khal excavated ...	200
	Total ...	91,153

No.	Nature of works.	Amount. Rs.
<i>Roads.</i>		
3	Roads constructed ...	1,289
1	Road metalled ...	220
3	Bridges constructed ...	3,420
	Clearing of jungles ...	347
	Total ...	5,276
<i>Medical relief.</i>		
7	Charitable dispensaries, poor-houses, dharamsalas and musjids for pilgrims and destitute.	31,460
	GRAND TOTAL ...	1,39,041

In towns it will be seen that there is preponderating expenditure on roads, that disbursed from drainage being about a third and that on water-supply about a fifth of the amount. The "Disposal of the dead" has not a fair allotment, and more should be spent under this head with great advantage. Money is available, and I am still of opinion that the expenditure of a considerable part of municipal funds is misdirected, a matter requiring the careful

attention of the controlling officers. I am glad to observe that in 1887 there is an increase in expenditure from district funds on water-supply over the year before. It must, however, be largely augmented before any general improvement can be looked for. I would note the very small sum Rs. 3,500 spent on the maintenance of trees on road sides. This is absolutely insignificant in comparison with the wants of the province. On such lines of communication as the Grand Trunk Road in its passage through Manbhum and Hazaribagh districts, on the pilgrim road from Ranigunj to Cuttack, and at level-crossings on railways, and generally throughout the Province, trees are much required for the comfort of man and beast. In the whole expenditure from private charity, Rs. 1,39,041, a sum of Rs. 91,153 was diverted to water-supply, the most useful purpose to which it could be put; and although complaints are numerous that old tanks are everywhere silting up, it is pleasing to know that the charitable feeling prompting such outlay is not quite dead. District custom varies very much; some districts contributing nothing; while others, on the contrary, spend considerable sums, as in Darbhanga, where Rs. 14,835 were spent on tanks and wells, and Rs. 5,000 given by one benevolent gentleman for a drainage survey of the Darbhanga town.

109. Water-supply.—There were no important schemes of water-supply initiated or completed during the year. A sum of Rs. 243 was spent in laying down some small pipe extensions in the town of Burdwan. In Dacca there was no extension or improvement, but some additional hydrants have been erected at Darjiling, and an increase of supply will be considered. Progress was made with the Bhagulpore Water-works, and the extension of the pipes throughout the town apparently now depends on the ability of the Corporation to raise sufficient money for the purpose. The scheme of water-supply for the towns on the right bank of the Hughli, from Serampore to Howrah, has made no progress during the year. Since the close of the year, however, it has been suggested to the Corporation of Howrah by the late Chairman (Mr. Westmacott) that as the funds of the Municipality are not sufficient to enable it to bring down water from Rishra, as originally intended, the town can obtain a good water-supply by pumping up from the river Hooghly at ebb-tide, and allowing the water to settle in large reservoirs before passing into consumption. If funds admit he suggests that the water should be filtered. Mr. Westmacott has also suggested the raising by the Municipal Commissioners of a loan of 5 lakhs (which he thinks they can raise for less than 6 per cent.) for the purpose of improving the water-supply of the town. Other riparian towns seem to have dropped the subject of water-supply—except Serampore, which takes up an attitude of expectancy—and returned to the discussion of tank-digging for an extension of water-supply. The scheme for the water-supply of Puri has advanced no further during the year so far as I can learn. It passed into the hands of some Native Association in Calcutta I am told, but what has been done has not been communicated to me.

In the districts also no schemes of importance were begun during the year. Money was spent as in other years in excavating tanks and sinking wells, but no systematic improvement was anywhere effected. In the Hughli district, Mr. Toynbee, the Chairman of the District Board, after the extension of the provisions of sections 88, 89 and 90 of the Local Self-Government Act, issued a circular to every village throughout the district, inviting public-spirited zemindars and owners of tanks to come forward under section 89 and make them over to the District Board for the purpose of being repaired and maintained as a source of drinking water-supply. Instructions were issued from this office to District Boards as to the manner in which tanks should be cleaned out and properly conserved, but up to the end of the year the Chairman reports that his circular has met with no response. In the district of Burdwan, Rs. 5,800 were advanced under the Land Improvement Loans Act to nine landholders and superior tenants for clearing and deepening old and silted up tanks, and for excavating new ones. The provisions of this Act appear only to be utilized in Burdwan, but considering the clamour which arises in all parts of the country on the subject of water-supply, they might afford great relief to the people if villagers of substance

came forward and took advances. Some money was spent on Government estates and on estates under Government management in Midnapore in improving water-supply.

Drainage.—The most important scheme of town drainage in progress during the year was that in Dinajpur, the cost of which is estimated at Rs. 26,000, and will be met by the Maharajah of Dinajpur. When complete it will greatly improve the state of the town, and, as seen in partial action in the month of September, was proving most useful in carrying off surface and sub-soil water. In its orders No. 1607M.P.I., dated the 30th September 1887, the Government of Bengal, Public Works Department, was good enough to detail an Engineer to make drainage surveys of the towns of Darbhanga and Chupra, and these are now in progress. If this action be continued till suitable schemes are prepared for many of the badly-drained towns, an important step in sanitary advancement will have been made. The Burdwan Municipality employed a surveyor to take levels of the town with a view of drawing up a regular scheme of drainage which might be followed out in future years. Similar action was taken at Monghyr. It has been consistently recommended for many years, but is generally rejected by Municipal Commissioners on the ground of expense, notably in Mozufferpore, where the Commissioners obtained a rough estimate of the whole expenditure and rejected all improvement, as a completed scheme is beyond their present means. During the year Rs. 1,645 were spent on the Baluchur drainage scheme in the Murshidabad town, but only a nominal sum in Rampore Beaulah, which requires further outlay to put its drainage in a proper state. Much improvement was made at Darjiling in soling some of the stone drains with Mirzapore flags, but the proper construction and flushing of house drains require attention before the condition of the Sanitarium can be looked upon as satisfactory. After two visits, one specially devoted to the object, I got the Commissioners of Patna to provide an outfall for the drainage of the chowk, which was before detained in the town.

The Surpai drainage works in the district of Midnapore, referred to in former reports, were proceeded with, and a sum of Rs. 29,692 expended on them during the year, and upwards of Rs. 10,000 spent on protective embankments in the same district. I observed at Murshidabad the protective embankment being raised in height so as to prevent the flood water of the Bhagirutti topping the bank and flooding the towns of Murshidabad and Berhampur. Such work may be very useful in the protection of property and crops, but when the natural overflow of the country is interfered with, some provision should be made for renewal of water-supply, and this can only be done by placing sluices on the khals entering the river, and seeing that they are opened at proper times of flood to allow good flushes of fresh water to pass into the interior, and renew the supply in bheels and water-courses.

Conservancy.—Additional latrines and urinals have been supplied during the year in many towns, and some of better plan than formerly, but the only large scheme of conservancy coming under notice during the year was the expenditure by the Commissioners of Howrah of Rs. 30,000 on a small tramway for the removal of the night-soil of the town beyond municipal limits. The employment of night-soil as manure is gradually extending, and the prejudice against crops grown on land so manured is disappearing. At Hughli and Berhampur, municipal vegetable gardens so enriched yielded admirable crops, and a fine crop of wheat was raised at Rampore Beaulah. Revenue was realized at Monghyr, Gya, and Buxar by the disposal of night-soil and sweepings.

PORT OF CALCUTTA.

110. The Health Officer of the Port reports that in 1887 there was a general improvement in the sanitary state of the river foreshore, many of the nuisances formerly complained of having been abated, but the discharge of sewage from the Howrah drains at the Salt Golahs, and the overflow from the Port Commissioners' latrine at Howrah still continue, the latter evil example being imitated by the British India Steam Navigation Company when erecting a

Sanitary improvements and defects with regard to the flow of sewage and drainage into the river.

new latrine. The latrines of Fort William are still connected with the river through the Fort ditch; and although this formed the subject of a correspondence with Government in 1885, I have not yet learned that any steps have been taken by the Military Department to put a stop to the evil.

111. The number of human corpses (106) found in the river and dealt with by the police was greater than in any of the preceding four years, but the number of carcasses has largely diminished, 3,169 against 4,853 in 1886, and 4,136 in 1885. By Government orders No. 181T.M., dated 30th June 1887, a conference was directed to assemble to consider the sanitary state of the Port referred to in paragraph 7 of Government of Bengal Resolution, dated the 20th May 1887, on the Health Officer's report of 1886. The report on the results of its deliberations was submitted to Government on the 8th September 1887.

112. No complaints were received during the year regarding water-supply to the Shipping. The Municipal Commissioners of the town have supplied one water-boat to take the place of one of the faulty boats, and it is to be hoped that they will continue to increase the number on the improved pattern.

113. The Municipal Act III (B.C.) of 1884 was introduced during the year into Tangail, in the Mymensing district, and into Khagoul and Dinapore Nizamut in the district of Patna. Part VI containing special regulations as to privies, drains and excavations, to building, to sanitary measures with regard to blocks of huts, &c., and Part IX on the construction and cleansing of privies, were extended to the Ranchi Municipality, in the district of Lohardugga. The following statement contains the names of the municipalities into which the Compulsory Vaccination Act V (B.C.) of 1880 was introduced during the financial year 1887-88:—

Districts.	Names of Municipalities.		Districts.	Names of Municipalities.	
Nudda	Chogdah	Municipality.	Shahabad	Buxar	Municipality.
Khulna	Khulna	ditto.		Dumraon	ditto.
Dacca	Dacca	ditto.		Sasseram	ditto.
	Narainganj	ditto.		Bhubush	ditto.
Faridpur	Faridpur	ditto.	Mozufferpore	Sitamurhi	ditto.
	Madaripur	ditto.		Lalganj	ditto.
	Burisal	ditto.	Durbhanga	Mudhubani	ditto.
Backerganj	Jhalokati	ditto.	Sarun	Chupra	ditto.
	Nalchitti	ditto.		Sewan	ditto.
	Junalpur	ditto.	Chumparun	Bettiah	ditto.
	Nusserabad	ditto.		Motihari	ditto.
Mymensing	Sherpur	ditto.	Monghyr	Jamui	ditto.
	Kishoreganj	ditto.	Purneah	Purneah	ditto.
	Bazitpur	ditto.	Malda	Old Malda	ditto.
	Maktagaohi	ditto.	Cuttack	Jajpur	ditto.
Chittagong	Chittagong	ditto.		Kendrapara	ditto.
Tipperah	Comilla	ditto.	Puri	Puri	ditto.
	Brahmunberia	ditto.	Balasoro	Balasore	ditto.
Noakhali	Noakhali	ditto.	Lohardugga	Ranchi	ditto.
Patna	Behar	ditto.			
	Barh	ditto.			

The Health Officer of the Port of Calcutta brought into requisition the power conferred by section 5 of Act II of 1887 in one instance, when the children on board a steamer, bringing pilgrims from Jeddah, had small-pox on board. He has explained in his report already submitted to Government the extreme difficulty of doing so without special arrangements.

114. In the statement given in the margin will be found the names of the districts and thanahs to which the provisions of Act IV (B.C.) of 1865, the Act forbidding the inoculation of variolous matter, were extended during the year 1887-88. These areas were taken up for systematic vaccination for the first time during the past season. Some opposition was made to the Act becoming law in the Backerganj district, chiefly from the idea that it was the Compulsory Vaccination Act which was being introduced. Act IV is now in force in all the districts of Lower Bengal, except Chittagong, in the greater part of Orissa, and four and-a-half districts in Behar.

Districts.	Names of places.	
	Perazepur	thanah.
	Mutbaria	"
BACKERGANGJ	Bhandaria	"
	Golachipa	"
	Golasakhali	"
	Putuakhali	"
	Bauphal	"
	Jehanabad	"
	Arwal	"
GXA	Utri	"
	Daudnagore	"
	Nowada	"
	Tikari	"

The Local Self-Government Act III (B.C.) of 1885 was introduced during

Dinajpur.
Rangpur.
Bogra.
Jalpaiguri.
Backerganj.
Mymensing.
Chittagong.
Noakhali.
Tipperah.
Gya.
Shahabad.

Mozufferpur.
Darbhanga.
Sarun.
Chumparun.
Bhagulpur.
Monghyr.
Purneah.
Maldah.
Cuttack.
Puri.
Balasore.

the year into the districts noted in the margin. The Act is now in force in all the districts of the Province except Lohardugga, Hazaribagh, Singbhum, Manbhum, Sonthal Pergunnahs, Darjeeling and Chittagong Hill Tracts. The three sections—88, 89, and 90 of the Act relating to water-supply—were extended during 1887 to all the districts in Bengal with the exception of the seven mentioned above. There has not been time yet to develop their usefulness; but if District Boards utilize them properly, the people of the country will benefit very much. The Bill for the amalgamation of Calcutta and its Suburbs is still before the Council, and, it is to be hoped, will before long become law. The necessity and extreme urgency of this reform must be apparent to all unbiassed minds:

115. The sanitary condition of the Inland Emigration Depôts in Calcutta continued satisfactory, the ratio of sickness was less than in any year since 1882, and of the four coolies who died, three arrived in Calcutta suffering from bowel-complaints. The report of the depôts at Goalundo shows that they were well attended to, only one death having taken place. They were carried away along with the Municipality by the river Ganges, cutting away the site on which they stood. Cholera, though prevalent in the suburbs, did not spread to the depôts, and there was none at Goalundo.

116. This forms Appendix VI attached to this report, and additional information regarding many registering circles has been added during the year. With improved registration and further careful survey, the estimate may in the end become useful, but at present the statistical figures are too faulty to indicate the places most requiring sanitary reform. I think, however, it might well take the place of Appendix No. II prepared to illustrate the large cholera map attached to this report, the latter being replaced by a shaded map of foolscap size, like the one introduced for the first time in this report. The labour of compilation in this office would thus be considerably lightened and the bulk of the report much diminished.

117. With reference to the orders of the Government of India, Home Department, No. 95 of the 30th July, information was called for from all municipalities with regard to drainage, and water-supply schemes, and expenditure on plant and establishment connected with conservancy. The amounts spent on the last have been very various, and depend much on the use of Part IX of the Municipal Act, or not in towns or parts thereof. With regard to drainage and water-supply, I give below a precis of information obtained, showing how far in Bengal towns action has been taken for permanent improvement under those heads of sanitation, and during my late inspections I have complied with the orders of the Government of India as far as practicable. The Bengal Government, however, as yet has not been able to associate the local engineering authorities with me, so that plans and estimates may be prepared, and I fear that the expenditure involved will be considerable. It should not, however, be overlooked that a special engineer is now employed on drainage projects for two towns in Behar, and that his services have been granted for this purpose by Government. Besides the plans detailed below, a great deal of money has been spent throughout Provincial towns on drainage and water-supply, but especially with regard to the former, expenditure should be discouraged until proper schemes are obtained, as much money will otherwise be lost in remodeling defective work. The preparation of such schemes, however, will take a great deal of time and involve a heavy expenditure.

Drainage.—*Mozufferpore.*—Rupees 151 were spent on a Surveyor with establishment to take levels, but scheme not prepared, and whole project abandoned on account of expense.

Noakhali.—Scheme proposed only and dropped.

Hajipur in Mozufferpore.—A small survey proposed to afford drainage to overflow of one tank.

North Barrackpore Municipality.—A Sub-Engineer prepared a scheme for whole municipality; estimated cost, Rs. 6,803. Work to be begun next official year.

Birnagar in Nuddea.—A drainage survey is contemplated.

Midnapore.—Drainage survey made in 1884. Scheme delayed for want of funds.

Pubna.—Survey contemplated.

Howrah.—Scheme prepared by Mr. Denham. Total estimated cost Rs. 3,14,990—Rs. 71,360-12-9 spent.

Dinajpur.—A drainage scheme prepared; estimated cost, Rs. 25,000, and Rs. 13,281 already spent.

Chuprah.—Drainage survey in hand.

Dacca.—A partial survey has been made, but no further progress.

Burdwan.—Drainage survey in hand.

Berhampore.—Two more sluice-gates to be provided.

Naihatti.—Drainage works in progress under the supervision of the District Engineer, 24-Pergunnahs.

City Murshedabad.—A drainage project has been in course of construction since 1880. Two main drains cost Rs. 30,000, and sums are yearly spent towards completion.

Jalpaiguri.—A town survey under consideration.

Darbhanga.—Drainage survey being made.

Monghyr.—Survey made and drainage map prepared.

Cuttack.—In 1879 a general drainage scheme was prepared; estimated cost Rs. 11,543. Much has been done; an outfall made and most of the town connected with the outfall drain. Pucka side drains connected with the general scheme have been extended to many populous parts of the town.

Baranagore in 24-Pergunnahs.—A survey was made, but very little money spent.

Chanduria in Khulna.—Drainage survey made in 1886-87 at a cost of Rs. 125-7-9, but nothing further done.

Rampore Beaulah.—A scheme of drainage prepared and seven main channels opened; cost of construction Rs. 30,000. Subsidiary channels under construction.

Water-supply.—Water-supply scheme for Howrah and other riparian towns on the right bank of the Hooghly river in abeyance.

Mozufferpore.—Water-supply scheme prepared by the Manager, Tirhoot State Railway, and Executive Engineer, but abandoned partly from want of funds and partly from prejudice against Gunduck water.

Midnapore.—A scheme for water-supply was given by the Divisional Superintendent of Works; estimated cost, Rs. 8,30,000. Not undertaken for want of funds.

Dacca.—Extension of present scheme contemplated; cost to be incurred, Rs. 1,15,000.

Burdwan.—Some extensions contemplated.

Hooghly and Chinsurah.—A scheme was made in 1884 and abandoned on the Executive Engineer, Burdwan Division, reporting that the probable cost would be about Rs. 3,59,000.

Cuttack.—An estimate for a scheme was made at Rs. 3,00,000, but idea given up for want of funds.

Bhagulpore.—Further extension of the filtered-water scheme depends on obtaining a loan.

SECTION X.

PERSONAL PROCEEDINGS.

Proceedings of the Sanitary Commissioner.

Officer in charge of the office during the year.

118. I was in charge of the office throughout the year.

119. During this period the 34 Places inspected by the Sanitary Commissioner.

In January.

Balasore.
Cuttack.
Puri.
Serajganj.
Faridpore.
Goalundo.

In February.

Hugli.
Burdwan.
Raniganj.
Deoghur.

In June.

Darjiling.

In August.

Narainganj.
Nasirabad.
Dacca.
Motihari.

In September.

Bettiah.
Rungpore.
Dinajpur.
Jalpaiguri.

In November.

Durbhanga.
Mozufferpore.
Chupra.
Patna.
Arrah.
Gya.
Monghyr.
Jamalpore.
Bhagulpore.

In December.

Bhagulpore.
Sahebganj.
Purneah.
English Bazar.
Hazariabagh.
Ranchi.
Suri.

municipalities named in the margin were inspected by me, against 38 during the preceding year. In several instances I went round them, accompanied by one or more of the local officers—Chairman and Commissioners—discussed with them the sanitary and the financial condition of the places, heard their views concerning sanitary necessities, and pointed out to them how the existing defects could best be remedied. Of the towns visited, Balasore, Burdwan, Darjiling, and Narainganj were found to be well managed and in a more or less satisfactory condition. The health status of the rest, though not in all cases absolutely bad or unsatisfactory, was not what it should be. Many grave defects existed in several municipalities, particularly in Puri, Serajganj, Durbhanga, Patna, Gya, Mozufferpore, Suri, and English Bazar, to the detriment of the health of the whole community. The last two, moreover,

appeared to have retrograded in sanitary status. In comparison with their condition when last visited, improvements were seen to have been carried out to a more or less extent in all the towns inspected, with the exception of Goalundo, Deoghur, Mozufferpore, English Bazar, and Ranchi. Details of the present sanitary condition of the several towns, the defects in them which needed attention, and the action taken by the Commissioners on my recommendations to deal with the insanitary conditions, will be found in Appendix V to this report. I do not consider the Commissioners of Mozufferpore, English Bazar, Old Maldah, and Suri as fit to be entrusted with the important duties of municipal government.

120. In my capacity of Professor of Hygiene in the Medical College, I delivered 20 lectures on the subject to 34 students in July and August, and also had the usual test and honor examination.

Lecture on hygiene delivered at the Medical College.

121. I also visited all the circles of vaccination during the year except Orissa.

122. A brief *resumé* of the reports I submitted to Government during the year is subjoined in compliance with the orders of Government on the subject.

123. The Municipal Commissioners of Sahebganj having in March 1887 submitted a representation to the Government of Bengal, praying for the removal of the head-quarters of the Rajmehal sub-division to Sahebganj, I was called upon by Government for a report on the present sanitary condition of Rajmehal and its future prospects as compared with Sahebganj. I replied in my letter No. 2059, dated the 24th March 1887, that with regard to health there could be no doubt which site was to be recommended as a sub-divisional head-quarters. I pointed out the many disadvantages under which Raj-

Removal of the head-quarters of the Rajmehal sub-division to Sahebganj.

mehal laboured, and the naturally insanitary condition of the place, which would require a considerable outlay of money before it could be made into a desirable spot for a sub-divisional head-quarters. Sahebganj, on the other hand, I pointed out, had none of the drawbacks of Rajmehal. It is a new place which has been well laid out by the East Indian Railway Company, has good broad pucca roads, many with pucca side drains, which are being extended every year. It has no swamps in its neighbourhood, is on the banks of the Ganges at a place where the river appears to be permanent, has an active municipal body with several European Commissioners, and from a sanitary point of view is a much more desirable place for a sub-divisional head-quarters than Rajmehal.

124. In July 1887 I visited Dhapa, in obedience to the orders of Government in the Public Works Department, to see whether any measures could be taken to improve the sanitary condition of the place, which was reported to be very bad. Fever, it was said, was raging with unusual severity, and the place was visited with a plague of flies. I pointed out to the Public Works Department that from the position of Dhapa in the middle of the Salt Water Lake it was not to be expected that it ever could be a healthy place, though experience had shown that the employes there suffer more severely at some seasons than at others from malarial complaints. I found that there were also some circumstances which assisted in aggravating the unhealthiness of the situation, such as the trades which are carried on in the neighbourhood. These are bone-collecting, shell lime-burning and tallow-making. The general filling in of the square mile with rubbish must also be deleterious, and is the cause of the plague of flies. The deposit of Calcutta sewage into the Bidhiadhuri river below the lock towards which it must be carried back by the flood tide is also injurious. I suggested that it would be advantageous to discharge sewage into the river lower down than at present, to remove the bone depôt and shell lime-burning establishment to other situations, and in the dry season to destroy by fire the Calcutta rubbish which is at present thrown near Dhapa. In the meantime, and pending action of the Calcutta Corporation on the above suggestions, I suggested a frequent change of employes at Dhapa, giving each as short a residence there as possible, removing as many as possible at night, and detailing a native doctor with a supply of medicines to visit the place daily to treat those attacked by illness, and to assist in their removal as speedily as possible. From the appearance of the water and the state of the banks between Baliaghata bridge and the Dhapa lock, it was evident that the sanitary condition of the canal was well looked after.

125. In August 1887 the Government of Bengal forwarded to me for report an extract from a letter from the Government of India, Home Department, suggesting that a sanitary survey of each municipality in the province should be, with as little delay as possible, undertaken by the Sanitary Commissioner and by the local engineering authorities, and that plans and estimates should be prepared of all improvements necessary to provide each town with an efficient system of drainage, water-supply and conservancy. On receipt of these orders I issued a circular to the Chairmen of all the municipalities in Bengal, requesting to be supplied with the following information:—

- (1) A statement of drainage schemes completed, in hand, or contemplated, showing the total cost to be incurred, amount already spent, and the agency employed to carry out the schemes.
- (2) The same information with regard to water-supply.
- (3) A statement showing in towns how much had been spent in plant, establishment, &c., for conservancy, noting especially the yearly cost of conservancy under Part IX. of Act III (B. C.) of 1884, and what relation in amount it bore to population in parts where it was in force.

My sanitary survey is proceeding, but as yet the local engineers have not been associated with me.

126. The prevalence of cholera in the Bhutan Duars and in tea gardens situated therein having been brought under the notice of Government, and it having been suggested that an inspection of the gardens should be un-

Outbreak of cholera in the tea gardens situated in the Bhutan Duars.

dertaken by an officer of the Sanitary Department with a view of enforcing certain well-defined principles of sanitation in cooly lines; I in June 1887 deputed the Deputy Sanitary Commissioner of the Darjeeling Circle to visit a fair proportion of the tea gardens in the Duars which had suffered from cholera, or which were known to be in a bad sanitary condition, and to report what suggestions he had to make to protect labourers on tea gardens from epidemic disease. He was also instructed to pay particular attention to the question of the situation, arrangement, construction and water-supply of cooly lines. On the 1st August I submitted to Government the Deputy Sanitary Commissioner's report, which was a very full and interesting one, with my own remarks on the subject. I agreed with the Deputy Sanitary Commissioner (Dr. Peck) in ascribing the prevalence of cholera in the tea gardens to the extremely insanitary condition of the cooly lines, aided by bad food, a naturally deadly climate, and lastly, and perhaps chiefly, to a polluted water-supply. Dr. Peck pointed out that there was no resident European medical officer on the gardens east of the Jaldaka, and that the medical arrangements generally were faulty. He submitted a number of recommendations, and advised a thorough inspection of all the tea gardens in the Darjeeling and Jalpaiguri district. I did not, however, recommend such an inspection in the Darjeeling district, as the sanitary condition of the tea gardens in that district was well known, both to me and the permanent Deputy Sanitary Commissioner, Darjeeling Circle. In Jalpaiguri district, however, the case was different, and I suggested that the Deputy Sanitary Commissioner, Darjeeling Circle, should in the cold weather visit the tea gardens in Jalpaiguri, and indicate what he thought should be done. Dr. Peck recommended that coolies should be bound under agreement, and thought that then the managers would provide medical treatment and attend to sanitary matters. I did not, however think agreements were desirable, because they would give the managers endless troubles, and be difficult to enforce; they would tend to diminish influx of free labour, and would certainly not keep coolies in the gardens if cholera or small-pox broke out epidemically. With Dr. Peck's suggestions regarding the proper laying out and construction of cooly lines, the provision of tube wells, the removal a little further from the huts of the cultivation of maize, and the cultivation of fruit trees, &c., I concurred. I suggested that the cooly lines should be under constant supervision, and be daily inspected by the native doctors employed, that places well removed from cooly lines should be used as burial-grounds, and that Tea Companies should be asked to combine and provide a competent medical man to look after a large group of gardens like that east of the Jaldaka. One thing, however, I pointed out to Government was clearly indicated, and that was to provide a proper staff for the collection of death statistics. Till the Sanitary Department is provided with correct information under this head, it is working to certain extent in the dark, and may have its attention diverted from the very place which requires it first.

127. The great cholera outbreak in Chumparun district in 1887, which resulted in the loss of 12,929 lives, or at the rate of 7.50 per 1,000 of the population, is referred to in paragraph 46 of this report. In accordance with the orders of Government, I proceeded to Chumparun in September, and enquired into the circumstances of the outbreak. My report, of which the following is a brief summary, was submitted to Government on 7th October 1887. I visited the towns of Motihari and Bettiah, and inspected their sanitary condition, and also that of the rural villages in both neighbourhoods. I also went to some indigo factories widely removed from one another, and held communication with planters well acquainted with the country, and learned their views of the sanitary condition of the villages. I inspected villages in different police jurisdictions, and thus was able to form an opinion of their sanitary condition. Considering the difficulties of the season of the year, a knowledge of a very considerable area was thus acquired. The records of mortality showed that cholera had never been absent from the Chumparun district during any year from 1877 to 1887, a period of 11 years, and that 1887 was the worst of all. The whole district suffers, no police jurisdiction being exempt; and Motihari town is of all others the most severely afflicted. Adapur rural and Bettiah town following next in order. I pointed out that the figures I had examined clearly established the fact that cholera is an endemic disease in Chumparun, and that the loss of life from it is very heavy. Besides

the undue consumption of fruit, I heard, during the course of my enquiries, of other dietetic errors among the people as determining local outbreaks, but I could learn nothing to connect the use of the early millets with the disease. The insanitary conditions disclosed in the towns and villages the bad and polluted water, imperfect drainage, and absence of village cleansing were mentioned in detail in my report to Government, and I suggested that the only way of improving the health of the people, and diminishing the severity of cholera, would be by the superficial cleansing of village sites, and the provision of good masonry wells in proper localities, which should be periodically cleaned out. Such measures I pointed out could be carried out under the Local Self-Government Act of 1885, and that indigo planters would no doubt assist in villages of which they hold permanent leases, if requested to do so. I also recommended that Part IX of Act III of 1884 should be extended to the town areas Motihari and Bettiah.

128. In October 1887 Government forwarded to me for such action as I might find it practicable to introduce copies of certain papers published by the Government of Bombay regarding the prevention of leprosy by the complete isolation or segregation of those afflicted with the disease. On receipt of the above correspondence, I called for information from the Magistrates of districts as to whether any provision for the housing or segregation of lepers existed in any of the town of their districts, and if not, whether the local municipalities would undertake to provide any such accommodation. I have not yet received complete replies to my Circular, but from those which have been received, it appears that arrangements for the housing or segregation of lepers already exist in the districts of Midnapore and Bankura. Most of the municipalities consulted, although admitting the desirability of establishing leper asylums, regret their inability to do so for want of funds. At Purulia, in the district of Manbhum, there used formerly to exist a leper asylum supported by the municipality, but as it was found to lead to abuses from large numbers of lepers from the interior of the district resorting to it to the great annoyance of the town people, it was abolished in 1883. The German Lutheran Mission however, it is said, propose to reestablish a leper asylum at Purulia as soon as arrangements can be made for a suitable site, and the municipality have expressed their willingness to pay a small monthly contribution towards the support of the inmates. The whole question of the segregation of lepers will be considered by me when complete information has been received in my office.

129. Besides the above important matters several other sanitary questions were enquired into and discussed, some of which are detailed below.

130. On the introduction of the Local Self-Government Act in Bengal, I, at the instance of the Deputy Sanitary Commissioner, Metropolitan Circle, in May 1887, issued a circular to all Chairmen of District Boards, making the following proposals:—

- 1st.—That where tanks exist, one or more, according to the size of the village, should be cleaned and then reserved for drinking, all washing and bathing being prohibited.
- 2nd.—That pukka wells should be sunk where no tanks exist.
- 3rd.—That Local Boards allot small sums to villages requiring help, and hand over the money to the headmen and punchayets with instructions to clean one or two tanks, cut down all trees from their banks, and to reserve them for drinking alone, the people contributing their share in money or free labour.
- 4th.—That before cleaning, the Local Boards should arrange either for free gift of the tank from the owner, or for its free use by the village community, the owner retaining his right of fishing by rod and line, or net only.
- 5th.—That the money to meet expenditure should come from the Road Cess Fund, part of which can be legally devoted to this purpose.

I added detailed directions as to the mode of cleaning and preserving tanks as sources of water supply, and advised the District Boards to set aside sums

annually for the purpose. These instructions were given before the extension of the provisions of sections 88, 89 and 90 of the Local Self-Government Act, with a view to the matter receiving attention during the preparation of the various district budgets.

131. In July 1887, I requested the Deputy Sanitary Commissioner of the Metropolitan Circles to report on the bone-mill in the Utterpara Municipality worked by Messrs. Arakie Brothers, the sanitary condition of which

Sanitary condition and effects of the bone-mill at Utterpara.

had been called in question, and had given rise to litigation. It was stated that bad smells arose from the nature of the work, and that bone dust rising was deposited on tanks and caused their deterioration. The Deputy Sanitary Commissioner's attention was drawn to these and other points in connection with the mills. After a careful survey of the mills the Deputy Sanitary Commissioner reported that there was no bad smell of bones in the pukka godowns, and very little in the temporary shed, which could not be perceived more than six yards off, and as there were no houses near, no one could complain of the slight smell from the temporary sheds. The tanks, it was reported, were in themselves in a very bad state, for which the municipality and not the owners of the mill was much to blame. The water in these tanks was reported to be distinctly marshy and impure. The Deputy Sanitary Commissioner was of opinion that if any bone dust did fall into these tanks, which was doubtful, it could not render them any worse from a sanitary point of view than they already were. In the opinion of the Deputy Sanitary Commissioner the mill business was inoffensive and harmless. I sent copies of the Deputy Sanitary Commissioner's report to Messrs. Arakie Brothers and to the Utterpara Union, who asked for a copy of the report.

132. In July last the Deputy Sanitary Commissioner of the Metropolitan Circles brought to my notice the insanitary condition obtaining in the North Barrackpore Municipality with regard to the disposal of night-soil from latrines at Pulta and Itchapur connected with

Insanitary condition of the North Barrackpore Municipality with regard to the disposal of night-soil.

the gunpowder magazine and factory. It was stated that night-soil was systematically thrown into the river at these places, which are scarcely a quarter of a mile north of the new water-works pump, and as the water is always pumped up at ebb tide, it was very probable that a lot of night-soil was pumped up with it. I immediately sent a copy of the Deputy Sanitary Commissioner's letter to the Officer Commanding at Barrackpore, with the request that urgent attention might be paid to the conservancy arrangements for the sepoy guards at Pulta and Itchapore. At the same time I addressed the Magistrate of the 24-Pergunnahs, saying that it was the duty of the municipality to provide a staff of sweepers to remove the night-soil from the latrines and dispose of it properly. As the then mode of disposal was a source of very great danger to the whole Calcutta community and to all drawing water from the river in the Pulta neighbourhood, I asked the Magistrate of the 24-Pergunnahs to enter as speedily as possible into communication with the Chairman of the North Barrackpore Municipality, with a view to the provision of proper arrangements.

133. No opportunity offered in this office during the year 1887 to give employment to Mahomedans as suggested in the orders of Government contained in Circular No. 15, dated 7th April 1886. The Vaccination Branch of

Employment of Mohomedans in public offices.

this Department, however, affords employment to 1 Mohomedan Deputy Superintendent, 17 Inspectors, 1 Clerk, 5 Head vaccinators, and 25 Vaccinators, besides a large number of Licensed vaccinators.

134. Dr. Lynch was in charge of the Port throughout the year. He experienced great difficulty in carrying on his duties afloat when the steam-launch was laid up for repairs, which had to be executed on five different occasions during the year under report. The "bolio" provided for his use was found to be quite unsuitable, and had to be made over to the Sanitary Inspector. Dr. Lynch being unprovided with a proper boat had to perform his duties with much inconvenience in a "dingy," a most unsafe and unsuitable boat. 730 inward-bound and 871 outward-bound vessels, contain-

Proceedings of the Health Officer of the Port of Calcutta.

ing respectively 32,074 and 43,871 seamen, were inspected during 1887, against 712 and 804 vessels, with 29,930 and 37,521 seamen on board during the previous year, showing a considerable increase in the number of inspections in the year under report, notwithstanding the unfavourable circumstances alluded to above under which the work was carried on. It again gives me great pleasure to notice the energy and efficiency with which Dr. Lynch performed his onerous duties.

135. Babu Nundo Lall Haldar, the Native Inspector of the Port of Calcutta, deserves commendation for the manner in which he carried on his work. He inspected 12,568 boats, and visited the latrines 369 times, and found 311 of the former and 4 of the latter in a dirty condition. He made 312 complaints to the police, traced 122 cases of sickness on board of boats, and inspected 143 water-boats.

136. The following table exhibits collectively the number of villages, visited by the Deputy Sanitary Commissioner and the Deputy Superintendents of Vaccination, in connection with their sanitary duties, compared with the work performed in the preceding year:—

CIRCLES.	BY THE DEPUTY SANITARY COMMISSIONERS.									BY THE DEPUTY SUPERINTENDENTS OF VACCINATION.								
	Number of officers in		Number of towns and villages inspected in						Number of officers in		Number of towns and villages inspected in							
			1887-88.			1886-87.					1887-88.			1886-87.				
	1887-88.	1886-87.	Towns.	Villages.	Total.	Towns.	Villages.	Total.	1887-88.	1886-87.	Towns.	Villages.	Total.	Towns.	Villages.	Total.		
Metropolitan	1	1	35	616	651	15	521	536	4	4	28	1,946	1,974	36	1,814	1,850		
Suburbs of Calcutta	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	1
Darjeeling	...	1	5	482	487	...	78	82	2	2	...	94	94	1	216	217		
Ranchi	...	...	2	737	739	9	772	781	2	1	...	435	435	5	145	150
Sonthal Pergunnahs	...	1	1	250	253	4	783	787	Nil	Nil	...	...	...	...	...	...
Eastern Bengal	...	...	3	212	213	3	210	213	1	1	7	432	439	8	342	350
Orissa	...	1	1	824	824	1	595	596	Nil	Nil	...	...	...	...	...	...
Behar	...	...	2	391	393	8	328	336	1	...	5	341	346	...	...	...
Total	7	7	49	3,512	3,559	44	3,287	3,331	11	9	40	3,246	3,288	51	2,517	2,568		

Among the Deputy Sanitary Commissioners the largest number of village inspections was made by Apothecary P. Veeriah Naidu of the Orissa Circle, and the smallest number by Assistant Surgeon Narendra Nath Gupta of the Eastern Bengal Circle. In the latter case, however, it should be remembered that the means of communication are difficult in most of the districts comprised within the circle, particularly so in Backerganj, in which, with 7 exceptions, all the villages inspected by the Assistant Surgeon are situated. Considering the work in each circle separately, the increase in sanitary inspections was most conspicuous in the Darjeeling Circle, while the largest falling off took place in the Sonthal Pergunnahs Circle. The retrogression in the latter case was evidently due to the permanent incumbent proceeding on sick leave early in January, and being succeeded by Moulvie Tajammul Hossain, Deputy Superintendent of Vaccination, Darjeeling Circle, who, considered individually, performed the smallest amount of sanitary work.

Among the Deputy Superintendents the largest number of villages were inspected by Assistant Surgeon Umesh Chunder Ghosh of the 1st Metropolitan Circle, who visited 664 of them, and the smallest number by Moulvie Tajammul Hossain of the Darjeeling Circle, who visited only 22 villages during the early part of the season. On the whole, however good inspection work has been accomplished during the year under review. I should mention here that the number of villages inspected for sanitary purposes by Assistant Surgeon Jogendra Nath Bhattacharjee, one of the Deputy Superintendents of Vaccination of the Darjeeling Circle, has not been included in the above table, as the information furnished by him about their condition, &c., is quite untrustworthy. The Assistant Surgeon has been suspended from duty for fabricating public records, and his case is now under the consideration of Government.

137. All the Deputy Sanitary Commissioners, except Apothecary P. Veeriah

Submission of diaries by Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination, and action taken thereon by the Sanitary Commissioner.

Naidu of the Orissa Circle, and all the Deputy Superintendents of Vaccination, with the exception of Assistant Surgeon Doorga Das Roy of the Eastern Bengal Circle, submitted their diaries of vaccination and sanitary work regularly. These, diaries containing as they do a mine of valuable sanitary information, were always carefully scrutinised by me, and whenever any insufficient or perfunctory work on the part of the officers, from the Deputy Sanitary Commissioner down to the head-vaccinator, was detected, due notice was taken of it, and the recusant officer was warned or reprimanded. Such instances were, however, very few. Defects reported in the registration of vital statistics were always, and local insanitary conditions in some instances, brought by me to the notice of the local authorities concerned for necessary action.

138. A short sanitary history of the villages inspected by the Deputy

Reports on the health condition of the villages, &c., inspected by the officers of the Vaccination Department; advice tendered, and recommendation made for rectifying sanitary defects.

Sanitary Commissioners and the Deputy Superintendents of Vaccination of the several circles, as described in their reports on the subject, is given below. I should like to mention here that although the chief sanitary defects in villages, together with their obvious remedies, have been pointed out year after year in the annual reports of this Department, it is somewhat surprising to see it recently stated (Government of India resolution quoted in the twenty-third annual report of the Sanitary Commissioner with the Government of India, page 189) that "after nearly a quarter of a century of professed village sanitary work, but little of practical utility up to the present time, has been done," and that "this unsatisfactory result is mainly due, *first to the want of a clear perception of what should be done*," (the italics are mine) and, it is added, "the time has come when, by a systematic village survey from a sanitary point of view, each Provincial Government should arrive at a clear perception as to the first point." I submit that such criticism cannot well apply to this Province where the sanitary survey of villages have been accumulating for years. What is really needed is the giving effect to the recommendations so repeatedly urged by the Sanitary Department.

139. METROPOLITAN CIRCLES.—Surgeon-Major Kali Pada Gupta,

24-Pergunnah district.

Thanas.	Number of villages.
Bashirhat	4
Sonarpur	2
Diamond Harbour	4
Bankipur	5
Ilabra	1
Burnst	5
Naihati	2
Barripur	14
Nawabganj	4
Husnabad	3
Deyganga	2
Baduria	1
Total	47

Hugli district.

Singur	2
Hugli	10
Chauditala	7
Total	19

Jessore district.

Gadkhali	10
Jessore	2
Mamudpur	9
Narail	14
Bhongong	7
Lohagurah	4
Jhenidah	7
Mahepur	1
Manirampur	4
Salikopa	1
Total	5

Khulna district.

Bagirhat	13
Magura	10
Khulna	19
Kaliganj	5
Aasam	5
Paikgacha	3
Batkira	11
Total	65

Nuddea District.

Thanas.	Number of villages.
Gangni ... ..	...
Banaghat	9
Bhuluka	4
Kushtea	2
Kumarkhali	5
Alumdanga	4
Nakripara	23
Kaliganj	9
Hanskhali	4
Bhadalia	7
Krishnanj	8
Krishnagar	3
Mehorpur	8
Choudanga	7
Kalupole	2
Danurhuda	4
Jibannagar	8
Nawapara	3
Total	114

Howrah district.

Danjur	11
Ulubaria	13
Total	24

Murshidabad district.

Jangipur	13
Gokarna	3
Manulla Bazar	1
Amanpur	1
Raghunathganj	6
Bharatpur	8
Mirzapur	7
Burwa	5
Bhugwangola	8
Saty	13
Dewansera	4
Total	69

Birbhum district.

Ramporehat	10
Nalhati	9
Suri	2
Shankalipur	4
Mouressur	15
Total	40

M.B., Deputy Sanitary Commissioner.—

This officer's sanitary inspection embraced thirty-five towns and 616 villages situated in the thanas named in the margin. An abstract from his report on the subject is given below:—

The villages seen in the marginally cited districts which comprise the Metropolitan Circles may be classified into (1) those that are situated on more or less elevated ground and are dry; (2) those that are situated on comparatively lower ground and are not so dry as the former; and (3) those that are low-lying, swampy, and abounding in bheels, jullahs, and a net-work of rivers and khals, and are water-logged. Most of the villages visited in Bankura, Birbhum, Burdwan, and Midnapur, belong to the first class and are not subject to inundations. The country is undulating and the drainage free. Those that were inspected in Hugli, Murshidabad, and the northern portion of Nuddea and Jessore, mostly fall

Burdwan district.	
Thanas.	Number of villages.
Kaksa	12
Cutwa	22
Ketagram	9
Satgachia	5
Purbushiheli	8
Ausgram	10
Total	68

Bankura district.	
Gungajalghati	12
Sonamukhi	27
Total	39

Midnapur district.	
Thanas.	Number of villages
Daspur	6
Contai	10
Panshkura	10
Ghatal	9
Danton	10
Midnapur	13
Egra	7
Nandigram	1
Narayanpur	7
Maishadal	1
Total	74

daily tides. *Dwellings*.—Except in the riparian villages where some of the dwellings are pucca, houses are chiefly built on more or less raised mud floors, and consist of mud or mat walls and thatched roofs. In many cases they are surrounded by fruit trees and gardens. *Drainage, Water-supply and Conservancy*.—The arrangements under these heads are described in Appendix VI to this report. Regarding water-supply, it might, however, be stated generally that in Jessore, Nuddea and Murshidabad the people of inland villages far away from rivers and bours suffer more or less from scarcity of water during the dry season. *Disposal of the dead*.—Cremation is usually carried on on banks of tanks, bhils, khals and rivers, while burials are made sometimes in grounds set apart for the purpose, but more often within private enclosures. *General health* was on the whole fair. *Advice tendered*.—The Deputy Sanitary Commissioner gave advice to the people how to keep their homes and villages clean, and to procure the best drinking water to be had and to boil and filter it when the supply is bad. *Municipal*

Naihaty.	Baidyabatty.	Junzipur.
Bansbariah.	Bhudesaur.	Tumlook.
Baroopur.	Chogda.	Ghattal.
Rajpur.	Ranaghat.	Satkhira.
Barasat.	Beernagar.	Taki.
Goburdanga.	Sanfour.	Debbatia.
South Barrackpore.	Kumarkhally.	Baduria.
Baranagar.	Kusuria.	Russirhat.
North Barrackpore.	Nuddea.	Meherpur.
Uttarpara.	Culina.	Dainhat.
Bali.	Kotechandpore.	Cutwa.
Kotrong.	Moheshpur.	

under the second class. The villages are not usually subject to inundations, but some of them are submerged during high floods. The country is generally flat and the drainage not quite free. The villages inspected in the other districts may be included within the third class. They are in many cases more or less subject to inundations, and some are even affected by the
Inspections.—The towns named in the margin were inspected by the Deputy Sanitary Commissioner. A short account of the arrangements obtaining in them under the various heads of sanitation will be found in Appendix VI to this report.

140. Assistant Surgeon Umesh Chundra Ghosh, Deputy Superintendent, 1st

25.—Pergunnahs district.			
Thanas.	Number of villages.	Thanas.	Number of villages.
Barasat	15	Bakerpara	13
Naihati	11	Narail	27
Habra	8	... ..	15
Deyzanga	8	... ..	29
Barrackpore	10	Jessore, Sudder	13
Bhangor	10	Mohorampur	23
Harwa	8	Keshubpur	11
Hasanabad	8	Gadkhali	5
Kusirhat	17	Total	343
Baduria	11		
Total	106		

Jessore district.		Khulna district.	
Gachaitra	6	Khulna, Sudder	13
Sadsha	11	Butaghotta	9
Bongong	9	Pargachia	13
Gouripotha	33	Dumra	23
Moheshpur	31	Satkhira	18
Kotechandpur	7	Kalikanj	22
Kalikanj	21	Assasuni	11
Jhenida	19	Magura	5
Salikopa and Harina- kundu.	27	Kalarua	6
Magura	22	Baserhat	55
Mahomedpur	9	Rampal	18
Salikha	12	M-rethanj	26
		Mollahat	14
		Total	213

Malomedpur and Salika, and portions of Jhenida, Narail, Kalia, Lohagura, Bongong, Sharsha, Gouripotha and Moheshpur, all in Jessore, and the villages on the banks of the Ally nuddee in the sudder thana of Khulna, were inundated. *Drainage*.—In the village of Binodpur in thana Mahomedpur in Jessore, the zemindar of the place, an indigo-planter, was found re-excavating the Binodpur khal. Another indigo-planter was found re-excavating another khal in Magura thana in the same district, connecting the Madhukhali with the Charakhali gang. *Disposal of the dead*.—The practice of throwing uncremated or

partially cremated bodies into rivers and other water-courses is still carried on in almost all the thanas visited, specially in those in the district of Jessore. *General health* was on the whole fair, being generally better in the places that were inundated. Cases of enlargement of the spleen were noticed everywhere.

141. *Assistant Surgeon Preumber Nath Mittra, Deputy Superintendent, 2nd Metropolitan Circle.*—This officer inspected for sanitary purposes six towns

Nuddea district.		Murshidabad district—concluded.	
Thanas.	Number of villages.	Thanas.	Number of villages.
Ranaghat ...	29	Barna ...	4
Santipur ...	10	Bharulpur ...	8
Karimpur ...	5	Kandi ...	7
Ganoni ...	4	Khurgram ...	7
Alumdanga ...	19	Gokurua ...	6
Dumurduda ...	17	Bhugwangolab ...	8
Kalupole ...	21	Kallynaganj ...	8
Meherpur ...	6	Shakardichi ...	14
Kissanganj ...	2	Murzapur ...	7
Kotwali ...	4	Raghunathganj ...	18
Chuprah ...	9	Deewansera ...	9
Kalikganj ...	18	Suti ...	8
Nakasiipara ...	11	Shamsherganj ...	5
Hanskhali ...	21	Howlat Bazar ...	6
Kustuh ...	6	Shahanagar ...	2
Hiluluka ...	12	Gous ...	18
Kumarkhali ...	24		
Naopara ...	11	Total ...	171
Rhodaina ...	10		
Choudanaga ...	10		
Jibannagar ...	16		
Chogdih ...	11		
Jaculua ...	8		
Tehatta ...	8		
Total ...	294		

Murshidabad district.	
Jolinghi ...	17
Haripurpara ...	10
Nawada ...	9

Murshidabad west of the river Bhagirathi is high and slightly undulating, while the portion east of that river is low and exposed to annual inundations. The health status of these districts have been described in paragraph 139 of this report, and need not therefore be repeated here. *Registration.*—The death statistics were verified in the prescribed manner. Discrepancies regarding the registration of the events were detected in almost every thana visited, but their number was greater in Murshidabad than in Nuddea, and greater in the latter district than in Birbhum. *Recommendations.*—The Deputy Superintendent suggests—(1) That in every village one or two good tanks should be reserved solely for drinking purposes. (2) That defects in drainage in a malarious thana should be promptly attended to by the District Magistrate without waiting for the opinion of influential men. (3) That house-holders should be induced to keep their premises and their surroundings clean, and that it should be made penal with the people if they do not throw sweepings and other house refuse away from the houses or from the roadsides into holes which should be covered with earth from time to time. (4) That promiscuous defecation should be put a stop to, open, uncultivated fields or waste lands being set apart for the purpose. (5) That it should be made a duty of the chowkidars to see to the cleanliness of villages, and to report for the information of the Magistrate, through the District Superintendent of Police, any prominent unhealthy condition or nuisance they may observe. *Municipal Inspections.*—The towns of Nowadip, Meherpur, Ranaghat, Beernagar, Santipore and Kumarkhali were inspected by the Deputy Superintendent. A short account of the sanitary arrangements obtaining in these places will be found in Appendix VI to this report.

142. *Assistant Surgeon Jadub Chunder Ghose, Rai Bahadur, Deputy Superintendent, 3rd Metropolitan Circle.*—An accurate account of sanitary inspections made by this officer is not available, he having died suddenly in April before submitting his report. It appears, however, from the diaries of sanitary inspections received from him, during the past year that he examined for sanitary purposes only two towns and 48 villages situated in the thanas noted in the margin. His diary for the month of March has not been received, so that the

Burdwan district.		Howrah district.	
Thanas.	Number of villages.	Thanas.	Number of villages.
Satgachia ...	1	Ulubaria ...	2
Boddhood ...	1	Dumjoor ...	5
Culina ...	1		
Burdwan ...	2	Total ...	7
Raina ...	2		
Khandghose ...	2		
Total ...	9		
Hughli district.		24-Pargunnahs.	
Masra ...	1	Tollyganje ...	6
Singoor ...	1	Sonarapur ...	2
Chanditolia ...	4	Bistapur ...	3
Panousa ...	1	Motlurapur ...	3
Dhonukhally ...	3	Joy nagor ...	1
Jehanabad ...	3		
Gorkhat ...	2	Total ...	15
Khanascool ...	2		
Total ...	17		

number of villages and towns seen by him during that month is not known. This officer's inspection work was quite insignificant, but as he is dead it is useless to make any further remarks on it. *Municipal inspections.*—The Deputy Superintendent visited the South Suburban and the Barripore Municipalities. A short sanitary history of these places will be found in Appendix VI to this Report.

143. *Assistant Surgeon Ashutosh Law, Deputy Superintendent, 4th Metropolitan Circle.*—This officer's sanitary inspections embraced five towns and 660 villages situated in 34 thanas in the districts of Midnapur and Bankura as exhibited in the margin. In his report on the subject, he has graphically described the sanitary condition, &c., of each of the two districts separately. But as an account of these districts has already been given in paragraph 139 of this Report, it need not be repeated here. *Advice tendered.*—

Midnapur district.		Bankura district.	
Thanas.	Number of villages.	Thanas.	Number of villages.
Midnapur ...	40	Bankura ...	14
Narsinghur ...	11	Onda ...	19
Danton ...	6	Raipur ...	14
Gopiballavpur ...	27	Khatra ...	11
Jharkram ...	23	Gurajaghata ...	13
Bampur ...	25	Bishenpur ...	20
Sallbani ...	24	Kotulpur ...	23
Contai ...	26	Indas ...	10
Egra ...	16	Sonamukhi ...	16
Potashpur ...	5		
Bluewanpur ...	16	Total ...	148
Subang ...	22		
Rachunathpur ...	12		
Khajri ...	7		
Tumlook ...	2		
Panskura ...	34		
Moisadal ...	35		
Suthabatta ...	7		
Nunduram ...	28		
Chattal ...	22		
Daspur ...	41		
Dobra ...	29		
Keshpur ...	19		
Chandrakona ...	15		
Gurbetta ...	26		
Total ...	512		

are not open to pollution, of removing house refuse, dung, &c., to a considerable distance from the dwelling houses, and of providing windows in the bedrooms of their houses; but little heed was paid to these instructions. He was often laughed at by the people, and their taunting reply was always to the effect that "what their forefathers had done before them, they must also do." *Recommendations.*—The Deputy Superintendent attributes the general indifference of the people regarding sanitary matters to ignorance, and justly thinks that before anything can be expected in the shape of improvement or change in the domestic life of the peasantry, elements of education ought to be spread amongst them. He therefore recommends the establishment of small vernacular schools and patshalas in the interior of the districts. In this I agree with him; and as the above remark applies to the whole of the rural areas in Bengal, I consider that much greater attention than is at present paid should be given to imparting a knowledge of sanitation in all existing educational institutions. *Municipal inspections.*—The following towns were inspected by the Deputy Superintendent during the year under review:—Sonamukhi, Bishenpur, Chundrakona, Khirpai and Kiamjibunpur. A short account of their sanitary condition will be found in Appendix VI to this Report.

144. *Assistant Surgeon Hari Charan Sen, Deputy Superintendent, Suburbs of Calcutta.*—This officer thoroughly inspected, for sanitary purposes, every part of the suburbs of Calcutta. Their general condition, a short account of which

Haripara.	Halderbagan.	Nawabpully.
Ribirbagan.	Narkalbagan.	Lichubagan.
Malai busti.	Kopibagan.	Shambazar.
Gossain busti.	Nikaripara.	Ghosebagan.
Kassibagan.	Dugdugipara.	Kurryabazar.
		Admenibagan.
		Sitaram busti.

will be found in Appendix VI to this report, was anything but satisfactory. Most of the bustis, particularly those named in the margin, were found in a very filthy condition. The Deputy Superintendent's remarks regarding them may be summarized as follows:—*Dwellings and domestic cleansing.*—The houses are in most cases low-built and damp, with thatched or tiled roofs and walls of sticks and split bamboo plastered over with mud. They are often crowded together and ill-ventilated, and their surroundings are generally very dirty and untidy, being full of house-sweepings, broken earthen-vessels, and in fact of all sorts of rubbish. Defecation is also at times carried on around the premises. Surface cleansing is very imperfectly, if at all, done, the result being that heaps of unremoved rubbish, &c., are to be found everywhere. The condition of the private latrines is generally bad. In some cases faecal matter was seen overflowing the gumlahs and running down to the nearest drain. *Roads.*—Those through the bustis are mostly kutcha and narrow and in a bad state of repair, many becoming very

nuddy and almost impassable during the rains. *Drainage*.—The majority of the bustis are very imperfectly drained, and are full of foul tanks and cess-pools. Most of the streets have been provided with kutcha side-drains, but these are sadly neglected. They are allowed to get choked up with rubbish, dung, &c., and are thus of no use whatever during the greater part of the year. Many contain foul stinking slush in places and their sides are also now and then fouled. *Water-supply* is obtained chiefly from tanks and wells that are more or less open to pollution. The supply itself is insufficient, and is often of the worst quality, being little better than diluted sewage. The remarks of the Deputy Superintendent about the grave insanitary conditions existing in the bustis were in several instances forwarded through the Magistrate of the 24-Pergunnahs to the Chairman of the Municipality for necessary action.

145. **DARJEELING CIRCLE**.—The following officers were in charge of this circle during the year under review:—*Surgeon-Major J. J. Wood*, M.B., from 1st April to 29th April; *Surgeon-Major R. G. Mathew* from 30th April to 30th June, and from 24th July to 16th October; *Surgeon F. S. Peck* from 14th June to 23rd July, and *Surgeon L. A. Waddell*, M.B., from 17th October till the end of the year. The last-named officer visited for sanitary purposes five towns and 482 villages (against only 78 inspected by the Deputy Sanitary Commissioner during the previous year) situated in the 48 thanas and 8 districts named in the margin. An abstract from the report submitted by him is given below.

<i>Darjeeling district.</i>		<i>Rajshahye district—concluded.</i>	
Thanas.	Number of villages.	Thanas.	Number of villages.
Darjeeling	12	Ragmara	6
Kurseong	2	Patia	16
Kalimpong	4	Charkhat	9
Biliguri	4	Lalpur	13
Total	22	Baraigram	15
		Nattor	23
		Panchupur	15
		Noagaon	3
		Singra	24
		Total	140
<i>Jalpaiguri district.</i>		<i>Bogra district.</i>	
Jalpaiguri	4	Bogra	9
Shukarpur	2	Sheipur	7
Kiranti	5	Adandhi	6
Total	11	Panchubi	—
		Total	25
<i>Purneah district.</i>		<i>Dinapore district.</i>	
Kulaganj	20	Chintaman	25
Kishoreganj	2	Kotwali	34
Bahadurganj	23	Bangshihari	8
Arniya	17	Gangarampur	7
Purniah	15	Parbatipur	1
Daudaha	4	Total	69
Gondwara	15		
Munihari	16		
Total	112		
		<i>Rungpore district.</i>	
		Kumbarganj	3
<i>Maldah district.</i>		Nisbetganj	5
Kharba	5	Mahaganj	2
Katna	16	Nageswari	2
English Bazar	30	Darwani	1
Maldah	3	Dumla	1
Kalichak	0	Total	18
Shibganj	21		
Nawabganj	1		
Total	85		
<i>Rajshahye district.</i>			
Beaulia	10		
Tanor	6		

plastered over with mud. Their plinths are raised one or two feet above the ground. The cow and the cattle sheds are in most cases in the immediate vicinity of the dwellings, and are usually kept in a very dirty state. *Drainage, Water-supply, and Conservancy*.—The arrangements obtaining under these heads are described in Appendix VI to this report. *Disposal of the dead*.—The Mahomedan dead are usually buried in private compounds close to dwellings or on banks of jhils and tanks. Only a few villages have burial-grounds at their outskirts. Cremation is, as a rule, carried on on banks of tanks, jhils and rivers, but at places where firewood is scarce and cremation is thus rendered expensive, the Hindus, including the Rajbansis, Haris and Musahars, frequently bury their dead. Uncremated bodies are also occasionally thrown into the water. *General health* was bad in the Terai, and in Purniah, Jalpaiguri, Maldah, and the swampy tracts of Dinajpur, which suffered severely from malarial fever. The health of the other places was on the whole fair. *Advice tendered*.—The insanitary conditions observed in the villages visited were pointed out to the people on the spot, and instructions given for their rectification. *Recommendations*.—The Deputy Sanitary Commissioner recommends—(1) That properly protected wells and tanks be provided in every village, and exclusively reserved for drinking, the zemindars being required to do a great deal in this direction.

(2) That burial-grounds be provided at suitable distances outside every village, and interment near dwellings rendered penal. (3) That Dr. Cunningham's Sanitary Primer, which has been introduced into village schools, should have its contents fully and properly explained to the pupils, whose knowledge of the same should be further tested by questions. *Municipal inspections.*—The following five towns, viz. Old, Maldah, Nattore, Sherpur, Kishenganj and Kurseong, were inspected during the year by the Deputy Sanitary Commissioner. A short account of their sanitary condition will be found in Appendix VI to this report.

146. *Assistant Surgeon Jogendra Nath Bhattacharjee* acted as one of the Deputy Superintendents of Vaccination, of this circle up to 13th February 1888, when he was, as stated in paragraph 136 of this report, suspended from duty. For the reasons mentioned in that paragraph, no record of the sanitary work performed by this officer is given here.

147. *Moulvie Tajammul Hossain, Deputy Superintendent.*—This officer was in charge of the Purniah sub-division of the circle up to 4th January 1888, when he was appointed to officiate as Deputy Sanitary Commissioner of the Southal Pergunnahs Circle, his *locum tenens Assistant Surgeon Kristo Charan Bose* remaining in charge of this sub-circle during the rest of the year. These officers inspected between them for sanitary purposes only 94 villages in the

By Moulvie Tajammul Hossain.

<i>Purniah district.</i>	
Thanas.	Number of villages.
Purniah	1
Amour	1
Balrampur	4
Kadwa	3
Arariya	1
Total	10

*Jalpaiguri district. **

Jalpaiguri	2
Kirant	2
Mytaguri	2
Dhupguri	2
Alpur	2
Patgram	2
Total	12

By Assistant Surgeon Kristo Charan Bose.

<i>Purniah district.</i>	
Thanas.	Number of villages.
Purniah	5
Damdaha	5
Kadwa	5
Arariya	4
Kishenganj	5
Bahadurganj	5
Matiguri	5
Kaniganj	4
Total	39

Maldah district.

Karba	15
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Dinajpur district.

Kalinaganj	6
Hemtabad	7
Bani Sankol	5
Total	18

thanas noted in the margin. The Deputy Sanitary Commissioner justly remarks that the amount of work done by both these officers was very insufficient, specially so in the case of the former, who visited only 22 villages during three months. The attention of both officers was repeatedly called by the Deputy Sanitary Commissioner to the insufficient work being done by them, but almost with no effect. It will be seen from the table in the margin that many thanas which were inspected by the Deputy Sanitary Commissioner were also ins-

pected by the two Deputy Superintendents, and as the topography, &c., of the districts containing the respective thanas have already been described in paragraph 145 of this report, it is not necessary to describe them again here.

148. *RANJHI CIRCLE.*—*Assistant Surgeon Kasi Nath Ghosh, Officiating Deputy Sanitary Commissioner.*—This officer's sanitary inspections extended over

Lohardugga district.

Thanas.	Number of villages.
Ranchi	68
Mandar	16
Kera	50
Tamer	28
Khunti	69
Basia	14
Pakot	34
Chhapur	29
S. sai	28
Lohardugga	18
Balumat	30
Total	390

Hazaribagh district.

Romgurb	6
Hazaribagh	8
Chitra	6
Jogeswar	20
Dumri	32
Bagadar	20
Badha	6

Hazaribagh district—concluded.

Thanas.	Number of villages.
Chowpura	19
Koderma	30
Kharakdaha	28
Girdih	31
Total	215

Manbhum district.

Topchansi	15
Jheria	16
Tundi	19
Gobindpur	16
Pura	9
Choss	15
Barabazar	20
Total	119

Tributary State.

Jashpur
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two towns and 737 villages in the thanas indicated in the margin. In his report on the subject, an abstract from which is given below, the sanitary condition of the several thanas visited by him has been described separately. Almost all the villages are situated on elevated ground, and in many instances, in the vicinity of hills and jungles. *Dwellings.*—Excepting a few in some of the large villages, the houses are built with mud, generally on low plinths, and are either thatched with straw or foos or roofed with

tiles. They are often very closely grouped together, and are consequently badly ventilated. The sleeping rooms are, as a rule, partly occupied with goods and chattles, and overcrowding of inmates occurs at night. The cow and cattle sheds are very filthy. *Drainage, Water-supply, and Conservancy.*—The arrangements obtaining under these heads are described in Appendix VI to this report. *Disposal of the Dead.*—The Hindu dead are always cremated on banks of rivers, small streams called *dharas*, and other water-courses.

Waste lands and occasionally banks of bandhs are also used for the purpose. The Kols generally burn their dead near dwelling-houses. Interments are carried on close to the houses, and sometimes at the outskirts of the villages. *General health* was on the whole fair. The Deputy Sanitary Commissioner, however, mentions that in most of the aforesaid thanas fever, and in some both fever and dysentery or cough, prevails to a more or less extent during the rains. He thinks, and I believe rightly, that the decomposition of the accumulated filth and the contamination of the sources of water supply by surface washings, combined with the dampness of the weather, generate the above complaints. *Registration*—Was tested in the manner laid down by the rules on the subject.

Recommendations.—The Deputy Sanitary Commissioner submits the following:—(1) That cattle-dung should be removed to open fields outside the villages, and not heaped up within the premises; (2) that all sorts of house rubbish should be burnt down at intervals; (3) that promiscuous defecation should be stopped, and the people induced to resort to waste lands selected for the purpose; (4) that some *dairs*, tanks or wells should be set apart in every village exclusively for drinking; (5) that cremation should not be permitted near dwelling-houses, and (6) that the town of Lohardugga should be reconstituted into a municipality. This has since been done. *Municipal Inspections.*—The Deputy Sanitary Commissioner inspected the towns of Lohardugga and Chatra during the year under review. A short history of their sanitary condition will be found in Appendix VI to this report.

149.—*Babu Aghore Chunder Chukerbutty, Deputy Superintendent.*—This officer's

Hazaribagh district.		Lohardugga district.	
Thanas.	Number of villages.	Thanas.	Number of villages.
Hazaribagh ...	8	Paton ...	7
Budhi ...	4	Chaitonganj ...	4
Chowparan ...	8	Chatrapur ...	6
Chatra ...	5	Hosinabadh ...	2
Hunterganj ...	2	Gurua ...	6
Koderma ...	7	Kanra ...	4
Shimurua ...	2	Manica ...	3
Kamarguri ...	3	Balunathi ...	2
Jageswar ...	4	Ranchi, ...	2
Kasmaria ...	3		
Bagodar ...	5	Total ...	34
Dumri ...	5		
Gridhi ...	6		
Khurukdiha ...	6		
Gowari ...	2		
Total ...	70		

sanitary inspections extended over 104 villages in 24 thanas in the Hazaribagh and Lohardugga districts, as shown in the margin. The outturn of his work is small, but he bestowed much care and attention to enquiring into the sanitary status of individual villages. In Hazaribagh the same thana was in most cases inspected both by him and the Deputy Sanitary Commissioner. His description of the topography, health condition and other particulars of the several thanas visited by him, differs so little from that given by the Deputy Sanitary Commis-

sioner, and mentioned in the preceding paragraph, that it is not necessary to reproduce it here. Regarding food-supply the Deputy Superintendent states that it is somewhat deficient and dear in thanas Hazaribagh, Chowparan, Paton, Ruena and Munica.

150.—*Assistant Surgeon Prosunno Coomar Dey, Deputy Superintendent.*—This

By Assistant Surgeon Prosunno Coomar Dey. Manbhum district.		By Assistant Surgeon Basanta Kumar Sen. Manbhum district.	
Thanas.	Number of villages.	Thanas.	Number of villages.
Purulia ...	27	Purulia ...	13
Manbazar ...	12	Manbazar ...	14
Gourandi ...	19	Jampur ...	8
Raghunathpur ...	20	Jhulda ...	20
Para ...	16	Bhagmudi ...	22
Jharia ...	10	Ichasur ...	18
Gobindpur ...	15	Barabazar ...	8
Tandi ...	5	Total ...	103
Nirsa ...	14		
Topechanchi ...	10		
Chas ...	15		
Total ...	163		

Singbhum district.	
Sernikela ...	30
Chyebassa ...	20
Kharswan ...	15
Total ...	65

officer acted as Deputy Superintendent up to 28th January 1888, when he proceeded on privilege leave and was relieved by Assistant Surgeon Basanta Kumar Sen, who continued in office during the rest of the year. These two officers between them inspected 331 villages in the thanas marginally cited. The sanitary conditions, &c., of the villages seen by both in Manbhum need not be described here for the reasons mentioned in the foregoing paragraph. The villages inspected in Singbhum being almost similar in every respect, as regards conditions of life, to those in the other districts in this circle already

described; it is also not necessary to describe them again. Regarding food-supply the Deputy Superintendents say that the outturn of the rice crop was very miserable in thanas Gourandi and Raghunathpur. *Recommendations.*—Assistant Surgeon Basanta Kumar Sen offers the following:—(1) That cow-dung and house refuse should not be allowed to be collected in heaps near the dwellings, but

removed outside the villages; (2) that pits and filthy excavations should be filled up, and (3) that the banks of the bandhs, from which drinking water is taken, should be raised, and inward drainage thereby prevented.

151. **SONTAL PERGUNNAHS CIRCLE.**—Assistant Surgeon *Kali Prosunno Ghosal* acted as Deputy Sanitary Commissioner of this circle up to 6th January 1888, on the afternoon of which date he made over charge to Moulvie Tajammul Hossain and went on sick leave. The latter officer officiated as Deputy Sanitary Commissioner during the rest of the year. Assistant Surgeon K. P. Ghosal's sanitary inspections, which embraced only 214 villages, are considerably short of what might have been expected, but they seem to have been on the whole carefully conducted. Moulvie Tajammul Hossain inspected for sanitary purposes three towns and 36 villages in the thanas

<i>Monghyr district.</i>				<i>Bhagulpore district.</i>			
Thanas.		Number of village		Thanas.		Number of villages.	
Gogri ... ..	...	1		Sultanganj ... ..	...	1	
Khagria ... ..	...	2		Soopole ... ..	...	1	
Burainpur ... ..	...	2		Total ... ..	...	4	
Bogusserai ... ..	...	2		<i>Sonthal Pergunnahs District.</i>			
Monghyr ... ..	...	2		Deoghur ... ..	...	2	
Luckeeserai ... ..	...	2		Saron ... ..	...	1	
Sekundra ... ..	...	2		Madhupur ... ..	...	1	
Shaikpura ... ..	...	2		Dumka ... ..	...	1	
Jamui ... ..	...	2		Godda ... ..	...	1	
Nawadi ... ..	...	2		Rajmehal ... ..	...	4	
Total ... ..	...	19		Total ... ..	...	13	

marginally cited. He was out on tour through this circle for 80 days, and visited 416 villages on vaccination duty; but, devoted his attention chiefly to pushing on vaccination. The number of villages seen by him in each thana does not, with three exceptions, exceed two, and from the condition of these it is almost impossible

to form a sanitary estimate of the thanas in which they are situated. The chief points noticed in it are summarized below. The villages inspected in thanas Dumka, Godda and Rajmehal are situated on a comparatively higher level than those seen in the other thanas, which are on the same level with the surrounding country. *Dwellings.*—The houses are kutcha with mud walls and thatched roofs, and are in most places crowded together, ill-ventilated, and in a bad state of repair. Their floors are generally raised, and, excepting those in the villages in Soopole, they are as a rule free from dampness. The sleeping rooms are often overcrowded with all sorts of things, and the huts of the poor have insufficient accommodation for the inmates. *Drainage, Water-supply and Conservancy.*—The arrangements obtaining under these heads are described in Appendix VI to this Report. *Disposal of the dead.*—The Hindus cremate their dead on the banks of tanks and rivers, or on waste lands, or at the foot of hills, while the Mahomedans usually bury theirs at the outskirts of the villages. *General health* did not on the whole appear bad. *Advice tendered.*—The Officiating Deputy Sanitary Commissioner reports that when inspecting villages on vaccination duty he took the opportunity of explaining to the people the benefits of observing sanitary precautions, but with a few exceptions they were quite indifferent to the matter. In one village the people remarked that the insanitary conditions complained off by the Deputy Sanitary Commissioner had descended from their forefathers, who were never harmed by them, and that the same conditions could not now be productive of evil. No doubt this is the common sentiment prevailing amongst the masses of the people. *Municipal Inspections.*—The towns of Jamui, Colgong and Deoghur were inspected by the Deputy Sanitary Commissioner. A short account of the sanitary condition of these places will be found in Appendix VI to this Report.

152. **EASTERN BENGAL CIRCLE.**—Assistant Surgeon *Narendro Nath*

<i>Backerganj district.</i>			<i>Dacca district.</i>		
Thanas.		Number of villages.	Thanas.		Number of villages.
Bauphal ... ..	...	36	Keraniganj ... ..	...	7
Perozepur ... ..	...	26			
Matharia ... ..	...	23			
Bhaudaria ... ..	...	17			
Gulsakhali ... ..	...	29			
Patuakhali ... ..	...	60			
Golachipa ... ..	...	13			
Jhalakati ... ..	...	1			
		205			

Gupta, Deputy Sanitary Commissioner.—This officer inspected, for sanitary purposes, two towns and 212 villages in the thanas in the districts named in the margin. His report, a brief *resumé* of which follows, shows that he paid attention to his duties in this direction. The villages comprised within the aforesaid

thanas in the Backerganj district are situated on more or less low land, and are, with a few exceptions, subject to inundations, which at times

submerges the outsides and even the courtyards of the houses, carrying away all accumulations of filth and dirt, and thereby benefitting health. Portions of thanas Perozepur, Bhandaria and Patuakhali are flooded by the tidal water during the new and the full moon. Innumerable rivers and khals pass through the thanas, which also abound in filthy holes and ditches. Jungle too is very dense in most of the thanas specially so in Perozepur, Golachipa, Patuakhali and Bhandaria. Betelnut, cocoanut and other fruit trees are very abundant, and at places seriously obstruct air and light. *Dwellings and Domestic Cleansing.* *Drainage and Water-supply.*—The arrangements under these heads are described in Appendix VI to this report. *Disposal of the dead.*—There are no fixed places for carrying on interments or cremation. The Hindus burn their dead at convenient places, sometimes in spots near the houses, and sometimes on banks of tanks or khals. The Mahomedan dead are buried either on banks of tanks or within house enclosures. *Food-supply.*—Sufficient rice crop was reaped almost everywhere. The food of the people is very simple, consisting of large quantity of rice, little of any sort of *dāl*, some vegetables and little fish. Milk and flesh are luxuries. *Registration.*—The accuracy of the figures was tested in the prescribed manner, and the work was properly performed. *General Health* was on the whole good. *Recommendations.*—The Deputy Sanitary Commissioner says that the zemindars should be directed not to impose any taxation on the excavation of tanks for drinking purposes by the ryots. *Municipal inspections.*—The sanitary condition of the two towns, Muktagacha and Jhalokati, which were inspected during the year by the Superintendent, will be found in appendix VI to this report. His remarks about the condition of the former were duly communicated to the Chairman through the District Magistrate for necessary action.

153. *Assistant Surgeon Doorga Das Roy, Deputy Superintendent.*—During the

<i>Dacca district.</i>	
Thanas.	Number of villages.
Raipura ...	1
Rupganj ...	3
Narainganj ...	6
Keraniganj ...	3
Sabhar ...	4
Manikganj ...	5
Nawabganj ...	7
Srinagar ...	1
Munshiganj ...	3
Kaparia ...	3
Total ...	36

<i>Faridpur district.</i>	
Goalundo ...	6
Paugsa ...	11
Faridpore ...	9
Bhanga ...	12
Shibchar ...	7
Awnpore ...	11
Makrudpore ...	8
Madaripore ...	18
Kotalipara ...	16
Gopalganj ...	4
Total ...	102

<i>Mymensing district.</i>	
Gafargaon ...	13
Kishoreganj ...	16
Nikli ...	7
Bazitpore ...	5
Netrokona ...	29
Iswarganj ...	6
Mymensing ...	23
Sherpore ...	7
Jamalpore ...	7
Pingna ...	5
Gopalpore ...	5
Tangail ...	3
Total ...	126

<i>Backerganj district.</i>	
Thanas.	Number of villages.
Sharupkati ...	10
Jhalokati ...	12
Barisal ...	10
Gournadi ...	1
Mendiganj ...	24
Bhola ...	3
Total ...	60

<i>Noakholly district.</i>	
Lakhimpur ...	6
Noakholly ...	13
Total ...	19

<i>Tipperah district.</i>	
Nabinagar ...	5
Brahmanbariah ...	8
Kasba ...	3
Comillah ...	20
Chandina ...	3
Muradnagar ...	18
Daudkandi ...	12
Chandpur ...	5
Haziganj ...	9
Lukeham ...	6
Total ...	89

year under review this officer's sanitary inspections extended over seven municipalities and 432 villages, the latter situated in six districts and 50 thanas as shown in the margin, against eight municipalities and 342 villages during the preceding year. In his report, an abstract from which is subjoined, the sanitary condition of the several districts of his circle has been dealt with conjointly. The following thanas are for the most part situated on low-lying land :—Raipura, Narainganj, Keraniganj, Sabhar, Manikganj, Nawabganj, Srinagar and Munshiganj in Dacca, Kotalipara, Gopalganj, Madaripur, Bhanga, Shibchar and Faridpur in Faridpur, Nikli, Bazitpur, Netrokona, Pingna and Tangail in Mymensingh, Sharupkati, Jhalokati, Barisal, Mendiganj and Bhola in Backerganj, and Kasba, Nabinagar, Brahmanbariah, Muradnagar, Daudkandi, Chandpur and Haziganj in Tipperah, the other thanas are situated some on elevated ground and some on ground which in point of elevation occupies an intermediate position between low and elevated land. Many villages comprised within the thanas in the first group, and some of those situated in the others are subject to inundations which are not an unmixed evil, proving beneficial in some respects and harmful in others. The diurnal tides affect in a marked

degree thanas Madaripur, Kotalipara, Gopalganj, Sharupkati, Jhalokati,

Barisal, Mendiganj, Bhola, Lakhimpur, Noakholly, Daudkandi, Kerani, ganj and some others. Most of the villages inspected by the Deputy Superintendent abound with ditches, hollows, *gors* and other excavations from which earth was no doubt originally taken for raising the house-plinths. These seriously interfere with the surface drainage of the villages, and by retaining water for a long time after the cessation of the rains, render them damp and unhealthy. There are also numerous bails and swamps within the limits of several of the thanas. Jungle too is very great in some of them. *Population*.—Broadly speaking, it may be stated that the more recent a village is, the less dense is its population. It is therefore that recently occupied churs are seen to be very thinly inhabited. *Habits of the people*.—Under this head the Deputy Superintendent remarks that, with a few exceptions, the people are abstemious; that the lower classes in almost all the villages are accustomed to manual labour, the tendency of the middle class villagers being towards indolence, which is the characteristic of the upper class. In point of cleanliness the Hindus are in advance of their brethren the Mahomedans. Personal cleanliness is, however, as a rule, pretty well observed by the two upper classes, and even the lower class people are now learning to keep themselves clean, but in some villages in thanas Awnpur, Muksadpur, Madaripur, Kotalipara and Mendiganj the people are still disgustingly dirty in their habits. *Drainage, Water-supply and Conservancy*.—The arrangements under these heads are described in Appendix VI to this report. *Disposal of the dead*.—The Mahomedans generally bury their dead within house enclosures and sometimes on banks of tanks. Public burial-grounds in some shape or other were noticed only in thanas Sabhar, Nabinagar, Brahmanbaria, Kasba, Comillah and Mymensing. The Hindus mostly carry on cremation outside the villages on banks of tanks, khals and rivers. The practice of throwing dead bodies into rivers obtains to some extent in thanas Rupganj, Narainganj and Iswarganj. *Food-supply*.—There was a good harvest of rice crop almost everywhere. Dâl, fish, milk and vegetables could also be had in quantities sufficient for local demand. *General health* was on the whole remarkably good. *Recommendations*.—The Deputy Superintendent offers many which may be summed up as follows:—Encouragement of the removal of unhealthy villages to new sites by offering lands on advantageous terms, reduction or remission of rent, exemption from some of the taxes, &c.; construction of villages on scientific principles; filling up of filthy holes and ditches; improvement of the local water-supply by digging or re-digging tanks, reserving them for drinking and protecting them from pollution; removal of jungle where it obstructs air and light, prohibition of burial and cremation within villages and on banks of tanks, and provision of proper grounds for these purposes; attention to general conservancy and provision of public latrines. *Municipal Inspections*.—The Deputy Superintendent inspected during the year the following seven municipalities:—Kishoreganj, Bazitpur, Netrokona, Muktagacha, Jamalpur, Madaripur, Jhalokati. A short account of their present sanitary condition will be found in Appendix VI to this report.

Thanas.	Gya district.	Number of villages.
Jehanabad	...	77
Arwal	...	79
Daudnagar	...	62
Tikari	...	21
Utraï	...	50
Nawada	...	60
Pakriburwan	...	42
		<hr/> 391 <hr/>

154. *BEHAR CIRCLE*.—Assistant Surgeon Mothura Nath Sen, Deputy Sanitary Commissioner.—This officer inspected for sanitary purposes two municipalities and 391 villages situated in the seven thanas of the Gya district noted in the margin. In his report on the subject he has dealt with the sanitary status of each thana separately. A short abstract from the report is given below.

Portions of Jehanabad, Arwal, Daudnagar and Tikari are comparatively higher than the other portions, while Utraï, Pakriburwan, particularly its Pachumba outpost, and the Gobindpur outpost of the Nawada thana abound with hills and hillocks, and are covered with jungles which give shelter to wild animals. These thanas are intersected by rivers and hill-streams, the chief among them being the Sone, the Falgoo, the Poonpoon, the Punchanor, and the Sakri. There are besides several irrigation canals which pass through thanas Arwal and Daudnagar. The villages are mostly situated on raised

grounds, river banks, and hill-sides, and, in some cases in Arwal and Daudnagor, on the sides of the tributaries of the irrigation canals. The dwellings are mostly mud-walled with tiled or thatched roofs. They are in some cases arranged in rows, but are in the majority of instances crowded together and badly ventilated. Their floors are generally dry. *Drainage, Water-supply and Conservancy.*—The arrangements under these heads are mentioned in Appendix VI to this Report. *Disposal of the dead*—Cremation is generally carried on on the banks of the nearest rivulet or on any waste land close to the village, and sometimes on the sides of hills. The pauper and the infant dead are always buried. The Mahomedans bury their dead on the outskirts of the village. *Food-supply.*—There is nothing particular to be mentioned under this head. The lower classes of people generally take one meal at night, and during the day they satisfy their appetite with a handful of *sathoo* or *chabanny*. *Clothing.*—The people are inadequately and dirtily clothed. *General health* was on the whole good. *Registration* was tested in the usual manner. In Gya deaths were enquired into in 172 villages, and omissions to register the events found in 26 of them. *Advice to the people.*—The efficiency of sanitary reform was explained to the people and the chief sanitary defects were pointed out, but they are quite indifferent to the subject. *Recommendations.*—The Superintendent suggests that the objectionable practice of promiscuous defecation should be put a stop to; that one or two wells in each village should be set apart for drinking purposes; that dead bodies should be buried or burnt at a safe distance from the villages, and that pits and holes in the villages should be filled up. *Municipal inspections.*—The Deputy Sanitary Commissioner inspected during the year the towns of Daudnagor and Tikari. The defects that were pointed out by him and his suggestions to improve the sanitation of these places have been sent to the Chairmen of the respective municipalities for necessary action. A brief account of the sanitary condition of these municipalities will be found in Appendix VI to this report.

155. *Assistant Surgeon Bejoy Coomar Chukerbutty, Deputy Superintendent.*—The post of the Deputy Superintendent of Vaccination for the Behar Circle was created in the year under review and the present incumbent is the first officer appointed to it. He joined the appointment on 2nd November 1887. His sanitary inspections embraced 5 towns and 341 villages situated in thanas Mokamah, Barh, Bankipur, Monair, Fâtwa, Hilsa, Alaserai, Silas, Behar and Bikram in Patna, and thanas Arrah, Buxar, Doonraon, Mohaniah, Bhabuah, Bilauti, Peroo, Dhungain, Kargher and Dehri in Shahabad. In the report submitted by him the table showing the number of villages visited in each thana has not been furnished, and he has described the sanitary condition of the two districts as a whole instead of each thana separately. A short abstract from his report is given below.

The general slope of the Patna district is from south to north, and that of Shahabad from south and west to north and east. Portions of thanas Mokamah, Barh and Monair in the former consist of very low paddy land, and are inundated during the rains when the villages look like small islands, communication from one village to another being then carried on by means of boats. The other portions of the district are comparatively elevated. In Shahabad, paddy and winter crop lands comprise the largest area, the southern part being full of hills and jungles. Thanass Peroo, Dhungain, Sasseram and Dehri are intersected by irrigation canals running in different directions, and are not thoroughly drained. Sub-soil moisture is retained in many places, and the Deputy Superintendent mentions that there was a great prevalence of fever in this part of the district year before last. *Dwellings.*—In both the districts the houses of the people are mostly kutcha with raised floors and thatched or tiled roofs. They are generally crowded together, and as there are very few windows in them, both external perfilation and internal ventilation is altogether bad. The cow-sheds are in most cases very close to the houses, and the animals are sometimes tied at night in the sleeping rooms and in the front verandahs. *Roads*—The village footpaths are mostly narrow, and serve the purposes of roads, drains and privies. *Drainage, Water-supply and Conservancy.*—The arrangements obtaining under these heads in the thanas visited during the year by the Deputy Superintendent are described in Appendix VI to this report. *Disposal of the dead.*—There is no fixed place for carrying on

cremation or burial. The Hindoos generally take their dead to the river Ganges or to the Sone and burn there indiscriminately. Owing to scarcity of fuel uncremated bodies are sometimes thrown into the river after the mouth only of the deceased has been touched with fire. The Mahomedan dead are buried either in house-compounds or in some waste land near the village. *Clothing.*—The people of both the districts are not only poorly, but dirtily clad, specially the woman. *Food-supply.*—The principal food of the people consists of *sathoo*, which is grain fried and then crushed. Almost all are in the habit of taking this food during the day, and a few take rice and *dāl* at night. *Sathoo* is very cheap, and at the same time its supply is abundant. *General health* was on the whole good. *Advice tendered.*—In many places the Deputy Superintendent tried to make the people understand that want of sanitation is the cause of disease, but they seemed quite indifferent to the matter. *Recommendations.*—The Deputy Superintendent suggests that the dead should be burned or buried in fixed places at a distance from the houses; that cattle-sheds should be removed from near the dwellings; that the houses should be furnished with windows; that the surroundings of the wells from which drinking water is taken should be kept scrupulously clean, and that the surroundings of the houses should also be kept clean. *Municipal Inspections.*—During the year under review the towns of Behar, Barrh, Doomraon, Buxar and Sasseram were inspected by the Deputy Superintendent. A short sanitary history of these places will be found in Appendix VI to this report.

156. **ORISSA CIRCLE.**—*Apothecary P. Veeriah Naidu, Deputy Sanitary Commissioner.*—This officer inspected for

<i>Cuttack district.</i>		<i>Balasore district.</i>	
Thanas.	Number of villages.	Thanas.	Number of villages.
Cuttack, sudder ...	29	Chandbally ...	1
Jugatsingpur ...	34	Total ...	1
Tirtol ...	29		
Jajpore ...	16	<i>Tributary States.</i>	
Dharamsala ...	57	Narsingpur ...	11
Salipur ...	56	Baramba ...	7
Kendrapara ...	47	Runpur ...	4
Patamundi ...	57	Total ...	22
Aul ...	35		
Banki ...	20		
Total ..	280		
<i>Puri district.</i>			
Puri, sudder ...	170		
Gop ...	116		
Pipli ...	54		
Khorda ...	49		
Banpur ...	32		
Total ...	421		

sanitary purposes 824 villages (against 595 during the preceding year) in the thanas noted in the margin. In his report on the subject he describes the sanitary condition of the several thanas separately. A brief *resumé* thereof is subjoined.

With the exception of the villages situated in the low-lying tracts of thanas Tirtol, Dharamsala, Kendrapara and Patamundi in Cuttack, and Gop and Banpur in Puri, almost all the other villages inspected in these two districts are situated on more or less elevated ground. Some of them are surrounded by paddy fields and some by mango topes, and some by low jungles. Cocoanut, date-palm and bamboo clumps are plentiful in the majority of the villages in Pipli. Thana Gop

abounds in marshes, and is intersected by tidal rivers which are infested with crocodiles. The interior of this thana as well as the greater portion of Khorda is covered with dense jungle which gives shelter to bears and other wild animals. Besides this, there is nothing peculiar in the topography of any of the other thanas inspected during the year in Cuttack and Puri. *Dwellings.*—The houses chiefly consist of mud-walled huts thatched with straw, and are in many places grouped together and badly ventilated. The floors of the houses are not, except where the general level of the village is low, subject to ground damp, the accommodation is in many instances insufficient, and overcrowding of inmates occurs at night. The cow and the cattle sheds are mostly built close to the dwelling-houses, and are often kept very dirty. The verandahs and even the sleeping rooms are sometimes used by the poor for the housing of their cattle at night. *Roads.*—Some villages have roads, but without side-drains. The foot-paths are mostly narrow, and serve the purposes of drains, and occasionally of privies too for children. *Drainage, Water-supply, and Conservancy.*—The arrangements under these heads are narrated in Appendix VI to this Report. *Disposal of the dead.*—Both interment and cremation are usually carried on at a distance from the villages, in beds of rivers, or in jungles, or on waste lands. In some places in thanas Patamandi and Aul the practice of throw-

ing partially-cremated bodies into the river especially during the floods when fuel becomes scarce, still obtains. *General health* of all the thanas visited, excepting Banki, which suffered severely from an outbreak of cholera, was on the whole good. *Registration* was tested in the usual manner through the means of chowkidars and respectable villagers. *Advice tendered*.—Sanitary defects and their probable effect on health were always pointed out to the people, who, it is satisfactory to learn, were in many places prevailed upon to adopt remedial measures. A short account of the sanitary condition of Chandbally in Balasore and of the town of Nursingpur, Baramba and Runpur in the Tributary States, which were visited by the Deputy Sanitary Commissioner, will be found in Appendix VI to this Report.

R. LIDDERDALE, M.D.,

*Deputy Surgeon-General,
Sanitary Commissioner for Bengal.*

The 18th June 1888.

APPENDIX No. I.

VITAL STATISTICS OF THE DISTRICTS OF BENGAL
FOR THE YEAR 1887.

**ANNUAL FORM NO. I.—BIRTHS registered in the Municipalities and Towns in the Districts
of the Bengal Province during the year 1887.**

1	2	3	4	5			6			7	8	9
DISTRICTS.	Number.	MUNICIPALITIES AND TOWNS.	Population according to Census of 1881.	NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females born.	Excess of Births over Deaths per 1,000 of Population.	Excess of Deaths over Births per 1,000 of Population.
				Male.	Female.	Total.	Male.	Female.	Total.			
Burdwan	1	Burdwan	34,080	275	184	459	8.00	5.30	13.40	140	.....	7.87
	2	Aasonole	4,208	81	66	147	18.97	15.46	34.44	123	11.48	.....
	3	Raniganj	10,087	150	136	286	14.45	12.60	27.05	114	.....	1.20
	4	Kulna	10,961	34	35	69	3.11	3.21	6.32	97	.....	10.68
	5	Cutwa	6,820	51	33	84	4.54	4.83	9.38	94	.....	8.65
	6	Dainhat	5,789	59	52	111	10.01	8.98	19.00	111	.....	11.22
Bankura	7	Bankura	18,747	195	149	341	10.29	7.80	18.18	130	5.65	.....
	8	Bisnaspore	21,283	231	241	474	10.97	11.35	22.32	96	9.36	.....
	9	Midnapore	38,560	203	223	426	8.73	6.04	15.37	126	.....	4.08
	10	Ghatat	15,638	187	165	352	14.78	13.26	27.08	120	13.06	.....
Midnapore	11	Tamluk	6,044	74	53	127	10.38	10.35	19.35	107	.....	.....
	12	Chandrakona	12,257	67	68	135	6.28	5.58	11.60	116	.....	15.50
	13	Ranjiunapore	10,909	105	92	197	9.62	8.43	18.05	114	.....	1.01
	14	Khorpi	6,295	80	57	137	12.70	9.05	21.75	140	.....	7.78
Hughli and Serampore	15	Hughli	38,718	372	425	797	9.60	10.97	20.54	87	.....	0.38
	16	Bansheria	7,031	55	44	103	7.82	6.81	14.64	114	.....	12.95
	17	Jehanabad	10,507	3	4	7	.....	.....	.....	75	.....	4.38
	18	Serampore	26,406	392	386	728	14.78	12.08	27.47	116	.....	11.63
	19	Utterpara	5,510	54	56	110	9.80	10.16	19.96	98	1.61	.....
	20	Baidohatly	14,718	23	30	58	1.80	2.03	3.78	93	.....	7.31
	21	Kotrung	5,747	35	27	62	6.09	4.69	10.78	120	.....	6.70
	22	Bhadessur	4,341	34	22	60	4.11	2.38	6.49	132	.....	25.32
Howrah	23	Howrah	90,813	902	845	1,807	10.50	9.30	19.80	113	.....	.....
	24	Bali	14,815	110	86	215	8.03	6.47	14.51	123	.....	8.14
	25	Suburbs of Calcutta	251,439	2,505	2,331	4,826	9.96	9.28	19.10	107	.....	22.94
	26	South Suburban	51,458	321	273	594	6.21	5.28	11.49	117	.....	2.61
	27	Baranagar	20,082	207	220	427	8.90	7.33	16.24	121	.....	9.37
	28	Rajpore	10,676	170	147	326	16.92	13.69	30.82	121	6.81	.....
	29	Joynagar	7,085	35	23	58	4.55	2.90	7.54	162	.....	1.56
	30	South Dum-Dum	14,108	143	129	274	10.27	9.14	19.42	112	3.70	.....
24-Pergunnahs	31	North Ditto	5,201	90	84	174	17.30	16.15	33.45	107	.....	8.05
	32	South Barrackpore	22,730	155	144	299	6.81	6.35	13.14	107	.....	7.70
	33	North Ditto	18,018	202	170	372	11.21	9.43	20.64	118	.....	4.66
	34	Nalhati	21,633	150	135	294	7.38	6.26	13.65	117	.....	8.34
	35	Narasi	10,633	13	7	20	1.23	.....	.....	155	.....	3.23
	36	Bansirhat	20,450	125	91	216	6.11	4.44	10.50	137	.....	.....
	37	Ruduria	19,135	124	114	238	6.47	5.95	12.43	108	4.81	.....
	38	Taki	5,120	32	14	46	6.25	2.73	8.98	228	.....	10.16
	39	Gobardanga	6,154	48	60	114	7.79	10.72	18.52	72	.....	11.54
	40	Kishnagar	27,477	265	247	512	9.64	8.98	18.63	107	.....	8.09
	41	Nobolip	14,106	58	44	102	4.11	3.11	7.23	131	.....	5.17
Nudda	42	Ranaghat	8,683	25	25	50	2.87	2.87	5.75	100	.....	.....
	43	Santipore	29,587	185	136	321	6.23	4.24	10.47	148	.....	2.95
	44	Kushia	9,217	9	9	18	.....	.....	.....	100	.....	.....
	45	Kumarkhali	6,041	32	22	54	5.29	5.29	10.50	100	.....	8.28
	46	Mohore	5,731	26	23	49	4.53	4.01	8.54	113	.....	0.98
Jessore	47	Jessore	8,495	45	28	73	5.29	3.29	8.59	161	.....	5.30
	48	Sakhita	8,739	18	10	28	2.05	1.14	3.20	180	.....	13.73
	49	Debhata	5,514	22	12	34	3.98	2.17	6.16	183	.....	18.86
	50	Rampore Beaulah	10,791	300	302	611	15.61	15.25	30.87	102	.....	9.05
	51	Rungpore	13,820	61	62	123	4.57	4.65	9.23	98	.....	19.82
	52	Rokra	6,119	15	10	25	2.42	1.61	4.04	150	.....	7.93
	53	Pubna	15,267	371	290	661	24.30	18.98	43.20	111	10.81	.....
	54	Sorajganj	21,037	163	121	273	7.73	5.75	13.47	125	.....	18.69
	55	Darjiling	7,074	42	31	73	5.93	4.38	10.31	135	.....	9.40
	56	Dacca	80,161	580	441	980	6.72	5.50	12.22	122	.....	3.51
	57	Narainganj	12,561	182	169	350	14.48	13.37	27.85	108	1.27	.....
	58	Faridpore	10,263	70	70	140	7.08	7.40	15.10	103	3.32	.....
	59	Rafsal	13,186	21	14	35	1.59	1.06	2.65	150	.....	10.96
	60	Nagairabad	10,561	20	17	37	1.89	1.60	3.50	117	.....	12.40
	61	Jamulpore	16,041	175	193	368	15.36	11.90	25.35	111	3.85	.....
Mymensing	62	Sherpore	8,710	151	140	297	17.33	16.76	34.09	103	.....	3.33
	63	Kishoreganj	12,588	45	41	86	3.48	3.17	6.66	110	.....	4.58
Chittagong	64	Chittagong	22,150	239	186	425	10.79	8.40	19.20	128	.....	.....
Noskhali	65	Noskhali	6,154	32	12	44	5.24	2.34	7.58	140	.....	4.94
Tipperah	66	Comilla	13,600	275	205	480	20.43	15.17	35.61	134	5.44	.....
	67	Brhmanberiah	15,543	325	435	760	18.62	10.00	27.62	97	7.58	.....
	68	Patna	160,247	1,737	1,387	3,124	10.83	8.65	19.48	125	.....	4.01
	69	Berhri	23,610	257	187	444	10.88	7.92	18.80	137	1.35	.....
	70	Bihar	44,971	678	674	1,352	13.84	13.75	27.60	100	13.09	.....
Gya	71	Gya	76,121	1,134	1,051	2,185	14.80	13.60	28.70	107	.....	18.46
	72	Jehanabad	5,288	55	50	105	10.40	9.45	19.86	110	Not available.	.....
Shahabad	73	Arrah	43,165	589	462	1,051	12.40	10.02	22.03	116	1.91	.....
	74	Mozufferpore	42,742	292	162	354	4.72	3.65	8.24	132	.....	2.55
	75	Sitamarhi	6,123	118	104	222	19.26	16.97	36.23	113	12.41	.....
Mozufferpore	76	Hajipore	23,695	160	118	277	6.18	4.69	10.77	131	.....	4.01
	77	Lalganj	16,783	208	192	400	12.39	11.44	23.83	108	2.74	.....
	78	Durbhanga	60,086	1,118	1,002	2,210	18.01	16.52	34.53	102	6.00	.....
	79	Madhubani	11,911	80	63	140	7.22	5.28	12.50	130	.....	3.11
	80	Chupra	63,240	230	153	383	4.31	2.87	7.19	160	.....	1.31
Sarun	81	Sevan	18,307	265	254	519	14.68	14.24	29.13	104	0.84	.....
	82	Reviganj	12,403	186	178	364	14.98	14.24	29.13	104	.....	4.0
	83	Rottiah	21,263	379	356	735	17.82	16.73	34.51	106	.....	4.85
Chumparun	84	Mothuri	10,307	115	119	234	11.16	11.64	22.79	96	.....	.....
	85	Monghyr	57,520	922	688	1,610	16.02	15.43	31.46	103	6.36	.....
	86	Jamulpore	13,663	344	357	691	25.36	24.84	50.21	103	.....	.....
	87	Shakhpura	12,517	169	172	341	13.50	13.74	27.24	113	.....	14.02
Bhagulpore	88	Bhagulpore	57,453	676	775	1,051	10.24	13.48	23.73	132	.....	1.74
Purneah	89	Purneah	16,016	125	94	219	8.32	6.25	14.58	132	.....	15.45
Maldah	90	English Bazar	12,430	98	62	160	6.47	4.17	9.65	130	.....	.....
Sonthal Pergunnahs	91	Shahabganj	6,512	79	77	156	12.13	11.62	23.95	102	.....	27.04
	92	Cuttack	49,389	401	382	783	9.27	8.83	18.10	104	.....	.....
Cuttack	93	Kondrapara	15,097	250	230	480	16.30	14.65	30.90	111	8.80	.....
	94	Jajpur	11,233	38	39	77	3.38	3.47	6.86	93	.....	1.72
	95	Puri	24,794	306	474	880	8.31	7.02	15.33	119	.....	35.83
	96	Hazaribagh	16,306	278	266	544	18.18	17.37	35.54	104	5.80	.....
Hazaribagh	97	Chatra	11,909	195	184	379	16.38	15.46	31.84	106	.....	.....
	98	Ranchi	18,443	95	72	167	5.15	3.90	9.05	131	.....	.....
Locharugga	99	Chybassa	6,006	61	43	104	10.16	7.15	17.31	141	.....	9.34
Singbhum	100	Purulia	9,304	75	73	148	8.06	7.94	15.90	102	.....	3.98
Manbhum												
TOTAL FOR THE PROVINCE			2,311,581	23,718	21,024	44,742	10.26	9.09	19.35	112	.....	4.98

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

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OFFICE OF THE SANY. COMM. FOR BENGAL,
The 2nd March 1888.

ANNUAL FORM No. II—Deaths registered in the DISTRICTS of the Bengal Province during the year 1887.

1	2	3	4	5	6	7	8	9
Number.	DISTRICTS.	Population according to Census of 1881.	Area in square miles.	Average Population per square mile.	NUMBER OF DEATHS REGISTERED.			MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.
					Male.	Female.	Total.	
	Burdwan Division.							
1	Burdwan	1,391,823	2,697	516'08	14,145	12,901	27,046	109
2	Bankura	1,041,752	2,621	397'46	9,019	7,605	16,624	118
3	Birbhum	704,428	1,756	400'99	10,810	10,568	21,378	104
4	Midnapore	2,515,565	5,082	494'99	29,143	26,281	55,424	110
5	Hughli	403,050	880	753'40	7,205	6,679	13,884	107
6	Serampore	351,955	343	1,026'11	3,587	2,979	6,566	120
	Total of Hughli, including Serampore	1,015,005	1,223	829'03	10,792	9,658	20,450	111
7	Howrah	635,381	476	1,334'83	7,048	5,634	12,682	125
	Presidency Division.							
8	24-Pergunnahs, exclusive of Suburbs of Calcutta	1,618,420	2,097	771'78	19,081	16,243	35,324	121
	Suburbs of Calcutta	251,439	23	10,932'13	4,181	4,424	10,605	139
	Total of 24-Pergunnahs	1,869,859	2,120	882'00	23,262	20,667	43,929	125
9	Naddea	1,655,721	2,755	600'93	23,004	20,597	43,601	116
10	Jessore	1,339,375	2,925	663'05	21,403	18,022	39,425	119
11	Murshidabad	1,226,790	2,144	572'20	18,038	16,134	34,172	111
12	Khulna	1,079,948	2,077	519'96	12,669	11,588	24,257	109
	Rajshahye Division.							
13	Dinajpur	1,514,546	4,118	367'74	25,602	22,543	48,145	117
14	Rajshahye	1,338,638	2,361	566'98	23,013	20,688	43,701	111
15	Rangpur	2,007,004	3,486	601'83	33,517	28,673	62,190	116
16	Bogra	734,368	1,408	490'23	10,991	9,684	20,675	113
17	Patna	1,311,728	1,817	710'19	18,091	15,223	33,314	124
18	Darjiling	166,137	1,234	126'53	2,622	1,808	4,430	132
19	Jalpaiguri	581,602	2,842	201'65	10,184	9,073	19,257	112
	Dacca Division.							
20	Dacca	2,110,350	2,797	756'65	23,040	20,328	43,368	113
21	Faridpore	1,831,734	2,297	797'78	18,043	16,690	34,732	121
22	Hackerganj	1,800,889	3,640	520'93	30,132	26,174	56,306	103
23	Mymensing	3,051,966	0,287	485'44	27,133	21,750	48,883	124
	Chittagong Division.							
24	Chittagong	1,132,341	2,507	441'11	9,056	8,258	17,314	109
25	Nonkhali	820,772	1,641	500'17	9,214	9,139	18,353	100
26	Tippurah	1,519,338	2,401	600'90	16,251	14,228	30,479	114
	Patna Division.							
27	Patna	1,756,856	2,079	845'05	25,371	21,430	46,801	109
28	Gya	2,124,682	4,712	450'91	30,428	35,009	65,437	103
29	Shahabad	1,004,109	4,365	450'15	33,503	28,570	62,073	117
30	Mozufferpore	2,642,000	3,003	880'83	18,945	14,010	32,955	130
31	Durbhanga	2,633,447	3,335	789'61	21,639	17,771	39,410	121
32	Sarun	2,280,392	2,622	869'71	20,811	21,134	41,945	124
33	Champaran	1,721,608	3,531	487'57	23,992	19,117	43,109	125
	Bhagulpore Division.							
34	Monohyr	1,569,774	3,921	502'37	36,280	33,378	69,658	109
35	Bhagulpore	1,496,158	4,208	498'07	20,803	26,088	46,891	114
36	Purneah	1,844,687	4,050	455'02	20,945	17,406	38,351	120
37	Maldah	710,448	1,881	375'70	11,007	9,188	20,195	126
38	Sonthal Pergunnahs	1,568,093	6,466	287'41	13,354	11,071	24,425	125
	Orissa Division.							
39	Cuttack	1,795,965	3,633	494'09	17,212	16,718	33,930	103
40	Puri	848,487	2,473	359'27	14,973	14,685	29,658	101
41	Balasore	945,280	2,006	467'54	11,072	11,100	22,172	105
	Chota Nagpore Division.							
42	Deoghar	1,104,742	7,021	157'35	15,163	13,854	29,017	109
43	Lohardugga	1,809,244	12,045	150'00	21,002	19,285	40,287	113
44	Singbhum	861,964	4,358	198'00	8,230	4,549	12,779	120
45	Manbhum	1,058,228	4,147	255'18	10,232	8,339	18,571	122
	TOTAL FOR THE PROVINCE	66,103,864	144,863	456'73	829,330	723,198	1,552,528	114

OFFICE OF THE SANIT. COMM. FOR BENGAL,

The 2nd March 1888.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. III.—Deaths registered in the Districts of the Bengal Province during EACH MONTH of the year 1887.

1	2	3												4
Number.	DISTRICTS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL DEATHS REGISTERED DURING THE YEAR.
Burdwan Division.														
1	Burdwan	2,660	1,958	2,182	2,330	2,009	1,474	1,700	2,227	1,869	2,578	2,846	3,204	27,046
2	Bankura	1,466	1,331	1,513	1,316	1,396	1,114	1,251	1,568	1,127	1,405	1,639	1,478	16,624
3	Birbhum	1,926	1,546	1,816	1,894	1,469	1,222	1,436	1,625	1,388	1,865	2,307	2,534	21,168
4	Midnapore	5,353	4,357	4,657	4,088	3,905	3,150	4,305	4,605	4,072	4,783	5,520	6,070	55,424
5	Hughli	1,661	1,238	1,268	1,084	878	651	735	870	869	1,328	1,552	1,740	18,664
6	Serampore	816	598	567	580	441	302	318	453	474	602	806	719	6,666
	Total of Hughli, including Serampore	2,477	1,836	1,835	1,668	1,319	983	1,053	1,329	1,343	1,930	2,348	2,459	20,460
7	Howrah	1,534	948	880	868	729	591	597	1,046	889	1,284	1,502	1,814	12,682
Presidency Division.														
8	24-Pergunnahs, exclusive of Suburbs of Calcutta	4,760	2,757	2,725	2,599	2,144	1,619	2,024	2,618	2,405	3,398	3,040	4,031	35,029
	Suburbs of Calcutta	1,053	815	862	963	784	492	678	713	804	866	1,162	1,363	10,608
	Total of 24-Pergunnahs	5,813	3,572	3,587	3,562	2,928	2,111	2,702	3,331	3,209	4,264	5,181	5,394	45,634
9	Nuddea	4,062	2,726	2,900	3,437	4,103	2,562	2,053	3,278	3,050	4,635	5,162	4,973	44,551
10	Jessore	5,244	3,684	2,913	4,072	3,143	1,999	1,942	2,785	2,389	3,428	4,006	4,000	39,625
11	Murshidabad	2,798	1,892	2,285	3,209	2,358	1,623	1,805	2,468	2,433	4,378	4,750	5,683	34,172
12	Khulna	3,417	1,800	1,684	1,960	1,430	1,136	1,262	1,463	1,709	2,240	2,908	3,158	24,257
Rajahmhye Division.														
13	Dinajpur	5,401	3,654	3,755	4,230	3,700	2,884	3,055	3,220	3,304	5,415	5,090	5,228	46,045
14	Rajahmhye	6,417	3,980	2,594	3,110	3,334	2,676	2,604	3,119	2,050	4,053	4,811	4,635	35,701
15	Rungpur	7,536	4,900	4,002	6,227	5,202	3,909	3,924	3,503	3,345	4,913	6,078	7,010	62,190
16	Bogra	2,379	1,554	1,397	1,865	1,751	1,194	1,361	1,538	1,416	1,096	2,090	2,435	20,585
17	Pabna	3,021	2,732	2,531	4,685	3,578	2,042	1,910	1,942	1,654	2,969	3,321	3,840	34,214
18	Darjiling	313	300	293	567	428	477	459	434	358	340	300	391	4,430
19	Jalpaiguri	1,679	1,479	1,642	1,989	2,112	1,676	1,284	1,023	890	1,720	1,767	1,966	19,257
Dacca Division.														
20	Dacca	8,069	3,788	3,101	4,210	3,906	2,108	1,980	2,098	2,105	3,361	4,374	4,699	43,377
21	Faridpore	3,559	1,915	1,542	3,753	2,497	1,242	1,417	1,221	909	1,793	1,790	2,104	23,743
22	Baokerganj	8,061	4,753	6,192	7,594	4,514	3,003	2,937	2,915	2,995	4,417	5,829	6,046	59,246
23	Mymensing	5,185	3,975	3,314	4,211	4,216	5,541	5,725	3,568	2,891	4,140	4,673	5,469	46,892
Chittagong Division.														
24	Chittagong	1,576	1,251	1,225	1,345	1,482	1,173	1,309	1,617	1,284	1,429	1,627	1,906	17,814
25	Naakhuli	2,134	1,569	1,540	1,744	1,675	1,406	1,370	1,196	1,126	1,298	1,563	1,802	16,355
26	Tipperah	4,207	2,590	2,246	2,683	2,311	1,840	2,188	2,161	1,869	2,482	2,779	3,233	30,479
Patna Division.														
27	Patna	2,842	2,000	1,830	2,454	4,050	3,026	7,474	6,950	4,209	3,819	3,098	2,403	44,801
28	Gya	3,455	2,515	3,467	3,004	9,003	7,211	11,273	10,984	5,720	5,223	4,016	5,266	71,377
29	Shahabad	4,409	2,645	2,749	3,397	4,540	5,714	11,798	6,608	5,870	4,853	4,447	2,853	62,103
30	Mozufferpore	2,547	1,642	1,743	2,008	4,039	3,640	3,350	3,213	2,505	2,471	2,531	2,085	32,362
31	Burhanga	2,601	2,205	2,030	2,402	4,022	4,210	4,460	3,591	3,365	3,353	3,513	3,132	39,410
32	Sarrun	2,798	2,532	2,430	2,835	3,830	4,405	7,305	7,444	4,596	3,440	3,410	2,515	47,445
33	Chumpanun	2,574	1,787	2,088	2,774	9,000	6,475	3,843	3,601	2,815	2,966	3,008	2,318	43,109
Bhagulpore Division.														
34	Monghyr	4,806	3,336	3,575	4,796	8,211	6,014	6,621	7,979	5,965	6,025	5,407	4,965	69,567
35	Bhagulpore	4,186	3,106	3,572	4,820	5,707	4,522	4,625	4,672	4,728	5,390	5,407	4,709	55,891
36	Purneah	3,711	2,837	2,702	3,106	2,857	2,250	3,980	2,674	2,289	3,919	5,041	5,475	38,351
37	Maldah	1,684	1,082	1,085	1,674	1,415	1,029	1,029	1,317	1,685	2,809	3,178	2,446	20,775
38	Souhal Pergunnahs	1,818	1,504	1,799	2,323	2,376	2,303	2,462	2,578	2,134	2,029	1,896	1,843	24,925
Orissa Division.														
39	Cuttack	3,549	3,144	3,131	2,643	2,315	1,815	3,012	3,077	2,585	2,481	2,929	3,240	33,930
40	Puri	2,889	2,319	2,629	2,239	2,123	2,928	4,308	3,476	1,629	1,598	2,179	2,450	29,658
41	Balasore	2,749	1,907	2,093	1,853	2,024	1,503	2,052	1,730	1,464	1,535	1,639	2,028	22,773
Chota Nagpore Division.														
42	Hazaribagh	1,824	1,517	1,728	2,280	2,608	2,270	3,079	3,212	2,725	2,696	2,701	2,388	29,017
43	Lohardugga	1,539	1,064	1,429	2,531	3,173	3,650	5,745	6,452	4,843	3,837	2,850	2,420	41,567
44	Ningbhum	739	609	771	743	790	821	865	980	872	698	797	818	9,509
45	Manbhum	1,205	1,111	1,387	1,762	1,858	1,464	1,080	2,036	1,993	1,335	1,356	1,556	18,671
	TOTAL FOR THE PROVINCE	148,714	101,811	105,767	126,348	140,829	112,612	137,118	138,079	112,624	135,386	147,957	145,349	1,552,528
	RATIO OF DEATHS PER 1,000 OF POPULATION EACH MONTH	2.24	1.53	1.59	1.90	2.13	1.70	2.07	2.08	1.70	2.04	2.23	2.19	23.46

OFFICE OF THE SANY. COMM. FOR. BENGAL,
The 2nd March 1888.

B. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

ANNUAL FORM No. IV.—Deaths registered according to AGE in the Districts of the Bengal Provinces during the year 1887.

1	2	3	4	5	6	7	8	9	10	11	12										
Number.	DISTRICTS.	UNDER 1 YEAR.		1 AND UNDER 5 YEARS.		5 AND UNDER 10 YEARS.		10 AND UNDER 15 YEARS.		15 AND UNDER 20 YEARS.		20 AND UNDER 30 YEARS.		30 AND UNDER 40 YEARS.		40 AND UNDER 50 YEARS.		50 AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Burdwan Division.																					
1	Burdwan	2,465	2,033	1,244	1,271	922	869	619	439	693	816	1,718	1,775	1,749	1,278	1,739	1,383	1,384	1,202	1,592	1,86
2	Bankura	1,687	1,359	810	890	705	672	412	241	540	443	1,083	900	1,097	737	816	701	876	768	924	96
3	Birbhum	2,843	2,398	1,440	1,453	1,011	818	449	328	435	533	915	1,045	1,027	903	1,015	802	956	885	1,04	1,04
4	Medinipur	4,737	4,064	3,027	3,131	1,946	1,725	1,373	824	1,430	1,253	3,316	3,240	3,478	2,904	3,280	2,467	2,723	2,300	3,913	4,32
5	Hugli	1,049	897	532	643	416	410	264	188	344	300	900	1,020	915	747	998	702	730	629	848	1,00
6	Serampore	677	502	347	370	230	197	120	122	107	154	420	385	428	315	453	304	360	300	612	40
	Total of Hugli, including Serampore ...	1,625	1,239	909	1,013	668	607	384	309	451	544	1,416	1,405	1,341	1,055	1,451	1,008	1,099	929	1,300	1,47
7	Howrah	1,404	904	916	782	483	401	300	188	333	298	702	675	653	495	671	420	547	448	1,037	1,01
Presidency Division.																					
8	24 Pergunnahs, exclusive of Suburbs of Calcutta	2,698	2,126	2,760	2,506	2,094	1,585	1,164	820	1,082	1,200	2,218	2,090	2,046	1,463	1,783	1,148	1,513	1,273	2,333	2,02
	Suburbs of Calcutta	921	771	588	604	298	204	148	120	360	202	1,119	613	1,122	507	625	326	454	364	546	66
	Total of 24 Pergunnahs	3,619	2,897	3,348	3,110	2,392	1,789	1,312	940	1,442	1,407	3,337	2,703	3,168	1,970	2,408	1,474	1,967	1,637	2,879	2,68
9	Nuddea	3,903	3,058	4,130	4,004	3,110	2,876	1,974	1,133	1,048	1,471	1,017	1,789	2,001	1,493	2,045	1,505	1,454	1,320	2,403	2,81
10	Jessore	1,526	1,331	2,732	2,680	2,702	1,871	1,395	1,001	1,173	1,168	2,378	2,435	2,498	2,030	2,370	1,809	1,908	1,474	2,801	2,46
11	Murshidabad	2,579	2,119	2,858	2,856	2,162	1,784	1,308	728	903	717	1,824	1,653	1,758	1,596	1,621	1,306	1,245	1,259	1,711	2,31
12	Khulna	1,709	1,473	1,701	1,680	1,220	903	603	434	545	813	1,239	1,789	1,363	1,221	1,150	868	919	701	2,064	1,04
Rajahmundry Division.																					
13	Dinajpur	3,644	3,267	3,304	3,046	2,143	1,573	1,633	1,150	1,407	1,518	3,615	3,867	4,202	3,124	2,819	1,984	1,815	1,681	1,808	1,56
14	Rajshahy	2,480	2,307	3,400	4,011	3,309	2,412	1,815	1,122	1,239	1,360	2,737	2,588	2,647	2,105	2,074	1,782	1,241	1,237	1,585	1,73
15	Rangpur	3,748	2,999	3,905	3,502	2,895	2,040	1,943	1,282	1,067	1,801	4,270	4,946	5,100	4,100	4,040	2,987	2,040	2,087	3,407	2,85
16	Bohara	1,837	1,623	1,773	1,748	1,033	782	542	365	503	635	1,238	1,265	1,276	1,003	1,027	751	801	681	971	83
17	Pubna	1,457	1,198	3,111	3,071	2,160	1,725	960	1,159	992	1,932	1,749	1,958	1,380	1,029	1,037	1,097	934	1,850	1,81	1,81
18	Darjiling	310	274	385	365	206	152	143	96	142	120	443	318	402	253	200	124	146	126	142	10
19	Jalpaiguri	1,831	1,024	1,120	944	682	538	470	607	793	1,227	1,258	1,258	1,417	1,232	1,132	880	968	780	720	61
Dacca Division.																					
20	Dacca	3,407	2,633	3,821	3,204	4,130	1,735	1,368	854	1,024	1,274	1,994	2,418	2,330	2,026	2,098	1,444	1,086	1,319	3,492	3,37
21	Faridpore	1,034	802	1,780	1,596	1,122	917	815	601	654	763	1,431	1,603	1,629	1,303	1,425	936	1,279	842	1,872	1,58
22	Buckerganj	6,610	5,667	4,707	4,633	2,723	2,359	1,368	1,014	910	1,444	2,198	3,681	3,673	2,708	2,460	1,876	2,298	1,835	4,327	4,03
23	Mymensing	2,776	2,061	3,151	3,127	2,321	1,740	1,420	970	1,325	1,576	3,023	3,186	3,525	2,454	3,032	1,809	2,234	1,050	3,720	3,10
Chittagong Division.																					
24	Chittagong	929	675	1,130	1,122	649	552	377	285	427	505	905	1,175	1,191	905	1,053	737	820	650	1,506	1,63
25	Nonkhali	1,919	1,582	1,700	1,752	605	632	360	233	276	399	567	984	998	814	689	565	780	493	1,634	1,46
26	Tipperah	2,823	2,210	1,961	1,848	1,109	1,070	611	630	843	987	1,073	1,838	1,893	1,425	1,356	1,002	1,220	906	2,670	2,31
Patna Division.																					
27	Patna	4,806	3,964	4,295	4,071	3,074	1,275	1,021	679	675	579	2,011	1,046	1,846	1,605	2,083	1,800	2,745	2,120	2,820	3,30
28	Gya	6,151	5,282	6,820	6,409	3,098	2,332	1,774	1,351	1,312	1,273	3,428	3,863	3,563	3,406	3,547	3,321	3,036	3,112	3,900	4,57
29	Shahabad	4,070	3,826	5,771	5,384	2,874	1,905	1,310	828	1,157	888	3,685	3,112	3,618	2,810	3,192	2,326	2,517	2,202	4,728	5,27
30	Mozufferpore	804	705	2,208	1,895	1,490	1,176	1,078	577	900	563	2,503	1,840	2,487	1,694	2,319	1,637	2,151	1,824	2,134	2,10
31	Durbhanga	1,444	1,246	3,333	3,070	2,200	1,646	1,221	700	1,025	698	2,467	2,267	2,811	2,107	2,435	1,814	2,000	1,799	2,513	2,42
32	Saran	4,094	2,803	4,617	3,765	1,844	1,320	1,233	808	1,103	845	2,539	2,007	2,703	2,205	2,505	1,860	2,078	1,905	3,517	3,55
33	Chumpran	2,659	2,060	3,708	3,087	1,989	1,344	1,105	652	1,107	779	3,041	2,552	2,904	2,382	2,681	1,793	2,111	1,736	2,637	2,68
Bhagalpore Division.																					
34	Mounhyr	8,106	7,431	8,034	7,562	3,174	2,506	1,870	1,222	1,094	920	2,780	2,539	2,557	2,115	2,907	2,365	2,736	2,616	3,295	3,99
35	Bhagalpore	4,104	4,254	5,468	5,219	2,530	1,814	1,447	975	1,403	1,397	3,513	3,148	3,266	2,530	2,866	2,073	2,169	2,311	2,142	2,47
36	Purneah	1,756	1,466	2,544	2,308	1,802	1,423	1,327	877	1,134	1,003	3,037	2,546	3,628	2,709	2,596	1,884	1,673	1,679	1,640	1,63
37	Malda	1,125	917	2,168	1,634	1,161	1,141	847	441	721	473	1,175	966	1,183	778	922	602	880	879	1,193	1,33
38	Sontal Pergunnahs ...	2,008	1,729	2,638	2,354	1,549	1,120	903	650	750	666	1,481	1,264	1,278	800	1,054	668	763	503	1,372	1,25
Orissa Division.																					
39	Cuttack	3,511	3,534	2,257	2,348	1,266	1,004	657	545	705	995	1,540	1,639	1,902	1,420	1,503	1,037	1,489	1,371	2,353	2,98
40	Puri	3,180	3,034	1,710	1,878	1,132	1,103	624	409	604	819	1,535	1,537	1,586	1,277	1,376	944	1,208	1,114	1,980	2,45
41	Balasore	2,348	2,240	1,382	1,372	761	600	510	348	503	592	1,200	1,150	1,415	1,136	1,141	803	935	809	1,412	1,92
Chota Nagpur Division.																					
42	Hazaribagh	3,077	2,770	2,969	2,892	1,276	1,063	759	581	472	443	1,238	1,082	1,548	1,208	1,261	866	1,207	1,400	1,255	1,58
43	Lehardnag	3,220	2,895	4,293	3,751	2,180	1,624	1,300	844	1,051	925	2,805	2,171	2,320	2,057	1,980	1,593	1,599	1,574	1,593	1,77
44	Singbhum	895	739	796	752	454	406	271	214	276	240	471	371	401	323	307	378	439	301	538	561
45	Manbhum	1,612	1,376	1																	

ANNUAL FORM No. V.—Deaths registered according to CLASS in the Districts of the Bengal Province during the year 1887.

1		2		3		4		5											
		POPULATION ACCORDING TO CENSUS OF 1881.					NUMBER OF DEATHS REGISTERED.					RATIO OF DEATHS PER 1,000 OF POPULATION.							
DISTRICTS.		Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.
Burdwan Division.																			
1	Burdwan	910	1,120,676	283,516	...	6,421	1,391,823	10	21,854	5,179	...	...	27,040	10.98	19.50	19.63	...	...	18.43
2	Bankura	56	910,845	46,274	...	84,677	1,041,753	3	15,033	725	...	863	16,634	33.57	10.50	15.61	...	...	15.95
3	Birbhum	48	817,310	162,621	...	14,440	794,428	1	16,844	4,154	...	429	21,168	20.83	20.88	23.54	...	...	20.66
4	Midnapore	740	2,233,300	164,001	36	117,488	2,515,605	14	40,550	3,411	...	2,440	55,424	18.91	22.19	20.79	...	...	20.76
5	Hughli	290	533,033	129,702	23	603,050	...	4	10,948	2,032	...	...	13,844	13.79	20.52	22.60	...	...	24.38
6	Serampore	365	292,174	59,098	285	30	351,955	5	5,452	1,191	...	...	6,560	13.09	18.05	20.28	...	...	18.05
Total of Hughli including Serampore		655	825,207	188,800	290	83	1,015,005	19	16,400	4,041	...	...	20,450	13.74	19.67	21.40	...	...	20.14
7	Howrah	2,051	500,870	132,118	37	305	635,381	8	9,839	2,835	...	...	12,982	3.90	19.04	21.45	...	...	19.95
Presidency Division.																			
8	24 Pargunnahs, exclusive of suburbs of Calcutta	9,028	1,003,110	604,723	230	429	1,618,420	184	23,238	13,507	...	...	36,920	18.53	22.16	22.33	...	...	22.20
9	Suburbs of Calcutta	4,046	149,930	96,583	127	731	251,439	203	6,508	3,831	3	...	10,603	50.14	43.80	33.06	23.02	...	42.17
Total of 24 Pargunnahs		13,976	1,153,040	701,306	357	1,180	1,869,859	347	28,806	17,338	3	...	46,534	27.69	24.98	21.72	8.40	...	24.68
0	Nuddea	6,422	727,890	821,395	1	18	1,655,721	189	14,470	25,033	...	...	44,591	29.43	25.37	24.14	...	...	26.93
1	Jessore	492	768,322	1,170,505	...	50	1,939,375	19	15,415	24,191	...	...	39,495	38.01	20.06	20.06	...	...	20.43
2	Murshidabad	470	634,796	589,957	1	1,560	1,226,790	5	17,013	10,247	...	7	34,172	10.61	24.21	27.53	...	4.46	27.55
3	Khulna	747	523,657	555,544	...	...	1,079,948	45	11,150	13,082	...	...	24,257	20.24	21.29	23.51	...	...	22.46
Rajahmundry Division.																			
4	Dinajpur	457	718,630	795,824	...	1,435	1,514,346	4	23,387	26,484	...	220	49,045	8.75	31.23	33.21	...	154.00	32.38
5	Rajahmundry	121	258,748	1,040,700	55	13	1,339,338	...	2,059	35,747	...	2	43,701	...	27.33	34.05	36.36	...	32.74
6	Ranapur	80	810,532	1,279,605	60	1,081	2,097,904	1	23,827	38,343	...	19	62,190	11.02	29.18	29.98	...	11.30	29.04
7	Bogra	27	140,860	593,411	2	58	734,338	...	3,500	17,005	...	...	20,855	...	25.48	28.40	...	...	28.16
8	Patna	114	361,479	649,908	1	236	1,311,728	1	9,090	25,117	...	...	34,214	8.77	27.99	20.44	...	...	26.08
9	Darjiling	1,800	1,24,717	8,244	18,775	641	156,137	15	8,874	207	201	43	4,430	8.33	30.57	25.23	15.49	67.08	24.37
0	Jalpaiguri	159	367,891	208,513	480	4,513	581,503	4	11,743	7,287	...	223	19,287	25.16	31.91	34.94	...	40.41	33.11
Dacca Division.																			
1	Dacca	8,799	858,680	1,250,687	49	135	2,110,350	153	17,421	25,803	...	...	43,377	17.38	20.33	20.55	...	...	20.49
2	Faridpore	2,741	653,092	974,963	13	5	1,631,794	27	9,755	13,960	...	...	23,742	9.85	14.91	14.31	...	...	14.55
3	Backerganj	3,717	624,597	1,267,894	4,297	84	1,900,889	74	16,500	42,555	17	...	50,246	19.90	20.41	33.64	3.54	...	31.16
4	Mymensing	151	967,355	2,038,505	...	25,955	3,051,060	5	16,360	31,945	...	582	48,802	33.00	16.56	15.07	...	22.42	16.01
Chittagong Division.																			
5	Chittagong	1,055	275,177	801,980	51,110	13	1,132,341	16	4,122	12,294	882	...	17,314	15.16	14.97	15.93	16.30	...	16.29
6	Naokhali	688	211,476	608,592	114	2	820,772	15	4,081	14,259	...	...	18,553	22.10	19.29	23.42	...	...	22.36
7	Tipperah	169	511,025	1,067,740	374	...	1,519,338	4	10,550	19,925	...	...	30,479	20.10	20.64	19.77	...	...	20.06
Patna Division.																			
8	Patna	2,588	1,541,001	218,141	...	66	1,756,556	12	40,111	4,678	...	...	44,801	4.63	26.02	21.91	...	...	25.50
9	Gya	96	1,801,484	235,098	...	4	2,124,682	...	63,803	7,604	...	...	71,527	...	33.76	32.87	...	...	33.05
0	Shahabad	276	1,417,881	146,732	...	30	1,564,613	2	57,768	4,333	...	...	62,103	7.24	31.77	29.53	...	...	31.00
1	Muzaffarpore	372	2,205,390	316,308	...	...	2,521,690	5	28,673	3,084	...	...	32,362	13.44	13.65	11.64	...	...	12.53
2	Darbhanga	325	2,323,979	308,985	...	188	2,632,967	2	35,461	3,944	...	3	39,410	6.15	15.25	12.76	...	18.93	14.96
3	Sarun	282	2,016,938	260,142	...	...	2,280,382	4	42,288	5,153	...	...	47,445	14.18	21.92	19.01	...	...	20.80
4	Champaran	1,936	1,476,985	242,687	...	...	1,721,608	66	37,717	5,326	...	...	43,109	34.09	25.53	21.94	...	...	25.03
Bhagalpore Division.																			
5	Monghyr	1,091	1,774,013	187,517	...	7,153	1,962,774	27	63,948	5,592	...	...	69,587	24.74	30.04	29.82	...	...	35.31
6	Bhagalpore	578	1,704,304	185,533	...	15,743	1,906,158	8	51,743	4,137	...	...	55,891	13.84	29.32	22.29	...	19	29.42
7	Purneah	327	1,076,639	771,130	...	691	1,848,667	1	23,801	18,989	...	...	38,351	3.05	21.70	19.43	...	...	20.74
8	Maldah	26	370,163	329,825	...	1,744	710,448	...	10,849	9,833	...	44	20,775	...	28.01	29.98	...	25.22	29.24
9	Sonthal Pargunnahs	3,067	847,500	108,899	182	608,415	1,608,993	14	15,275	2,385	...	7,351	24,925	4.67	17.56	20.98	...	12.08	13.88
Orissa Division.																			
0	Cuttack	2,342	1,744,227	47,829	3	964	1,795,065	18	33,395	617	...	...	35,930	7.68	19.08	12.98	...	...	18.90
1	Puri	819	873,664	14,603	...	1	888,487	13	29,336	300	...	...	29,658	15.87	33.57	22.00	...	...	33.38
2	Balasore	815	915,792	23,504	4	4,865	945,230	8	22,286	409	...	69	22,772	9.81	24.03	17.18	...	14.18	24.09
Chota Nagpore Division.																			
3	Hazaribagh	552	924,811	106,097	...	78,282	1,104,742	5	23,655	2,043	...	3,514	28,017	9.85	21.09	24.31	...	45.22	26.26
4	Lohardugga	36,281	808,443	77,403	1	620,717	1,609,244	312	18,804	2,717	...	19,354	41,247	8.59	21.71	35.10	...	30.88	25.45
5	Singbhum	2,988	555,040	3,282	...	648	561,904	19	9,487	49	...	14	9,589	6.35	17.09	14.92	...	21.60	17.02
6	Manbhum	552	940,247	45,453	23	65,953	1,008,228	6	16,714	758	...	1,093	18,571	10.86	17.65	16.67	...	10.57	17.56
TOTAL FOR THE PROVINCE		191,684	42,953,629	21,301,067	79,721	1,007,293	60,163,884	1,529	1,006,376	507,553	1,108	36,074	1,552,598	15.00	23.42	23.75	14.98	21.03	23.46

OFFICE OF THE SAN. COMME. FOR BENGAL,

The 2nd March 1888.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
DISTRICTS.						
<i>Burdwan Division.</i>						
1	Burdwan	1,335,905	438	17	20,707	373
2	Bankura	989,106	259	.....	12,123	298
3	Birbhum	786,580	367	.....	15,668	120
4	Midnapore	2,446,201	3,830	12	59,240	3,424
5	Hughli	613,825	364	1	9,603	1,039
6	Serampore	305,251	323	.....	3,414	651
	Total of Hughli including Serampore	919,076	687	1	13,017	1,690
7	Howrah	520,753	893	.....	5,686	1,835
<i>Presidency Division.</i>						
8	24-Pergunnahs	1,424,320	4,168	11	23,894	1,221
9	Nuddoa	1,560,321	2,595	19	35,478	245
10	Jessore	1,030,880	3,042	.....	33,826	123
11	Murshidabad	1,145,106	1,470	11	27,183	96
12	Khulna	1,065,032	2,244	1	18,774	258
<i>Rajshahye Division.</i>						
13	Dinajpur	1,501,786	646	18	45,098	211
14	Rajshahye	1,318,847	474	4	40,545	85
15	Rungpur	2,084,644	3,948	20	54,152	350
16	Bogra	728,170	92	.....	18,276	24
17	Pubna	1,275,424	1,064	.....	30,559	157
18	Darjiling	149,161	16	1	2,913	739
19	Jalpaiguri	573,615	1,245	1	16,789	78
<i>Dacca Division.</i>						
20	Dacca	2,023,628	5,596	12	27,425	2,345
21	Faridpore	1,621,471	5,220	36	16,024	402
22	Backerganj	1,847,703	8,817	167	33,428	673
23	Mymensing	3,004,853	3,859	59	36,324	1,531
<i>Chittagong Division.</i>						
24	Chittagong	1,110,211	1,368	1	12,286	586
25	Noakhali	615,648	487	27	14,250	683
26	Tipperah	1,468,289	2,022	24	18,727	1,044
<i>Patna Division.</i>						
27	Patna	1,471,813	4,361	155	24,760	2,715
28	Gyn	2,038,691	10,415	270	41,072	1,034
29	Shahabad	1,885,641	13,388	119	30,848	820
30	Muzafferpore	2,490,715	7,046	117	18,205	1,444
31	Durbhanga	2,567,351	5,741	148	27,019	1,794
32	Sarun	2,201,533	7,677	197	16,901	3,320
33	Chumparun	1,700,245	12,804	600	22,740	279
<i>Bhagulpore Division.</i>						
34	Monghyr	1,886,174	6,537	79	40,931	643
35	Bhagulpore	1,948,705	4,117	8	41,071	920
36	Purneah	1,833,671	1,680	22	35,020	138
37	Maldah	698,018	702	1	19,046	43
38	Sonthal Pergunnahs	1,500,089	506	5	21,384	315
<i>Orissa Division.</i>						
39	Cuttack	1,784,806	4,511	600	15,139	3,742
40	Puri	803,703	8,352	235	3,693	3,080
41	Balasore	925,015	4,233	322	7,982	4,266
<i>Chota Nagpore Division.</i>						
42	Hazaribagh	1,089,436	899	10	23,357	811
43	Lohardugga	1,590,801	9,363	64	20,577	2,112
44	Singbhum	555,958	153	6	6,762	800
45	Manbhum	1,048,924	204	5	14,207	847
	TOTAL FOR DISTRICTS	63,754,306	164,363	3,515	1,062,373	48,486
TOWNS.						
<i>Burdwan District.</i>						
1	Burdwan	34,080	65	1	447	83
2	Kalna	10,801	10	.....	117	26
3	Raniganj	10,937	35	.....	134	57
<i>Bankura District.</i>						
4	Bankura	18,747	19	.....	124	32
5	Bishenpur	27,253	21	.....	156	19
6	Sonamukhi	12,616	8	.....	103	8
<i>Birbhum District.</i>						
7	Soori	7,848	1	.....	25	4
<i>Midnapore District.</i>						
8	Midnapore	33,560	31	.....	236	120
9	Ghatal	12,638	4	.....	101	65
10	Chandrakona	12,257	44	.....	155	56
11	Ranujbanpur	10,909	7	.....	132	30
<i>Hughli District.</i>						
12	Hughli	65,718	82	1	535	260
13	Jehanabad	10,607	2	.....	42	8
14	Serampore	26,426	142	.....	316	229
15	Baidyabatti	14,718	10	.....	90	23
16	Uttarpara	5,510	10	.....	25	32

Districts and Principal Towns of the Bengal Province during the year 1887.

8					9	10	11										12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
31	33	79	118	251	4,038	25,823	32	01	18'50	27	18	3'03	19'32	20'00	1		
10	13	76	104	298	3,079	15,962	36	...	12'25	30	20	3'11	16'13	20'74	2		
10	16	109	88	223	4,747	21,125	46	...	19'01	15	28	6'08	26'55	28'98	3		
18	16	303	490	827	6,720	54,053	1'06	004	16'04	1'39	33	2'74	22'09	20'55	4		
10	19	108	98	230	1,552	12,789	1'09	001	18'64	1'69	37	2'58	22'53	21'42	5		
7	6	30	48	91	774	5,253	1'05	...	11'17	2'13	29	2'53	17'20	17'99	6		
17	25	133	146	321	2,326	18,042	74	001	14'16	1'83	34	2'53	19'63	20'28	.....	
16	10	175	89	295	2,113	10,822	1'68	...	10'73	3'46	55	3'98	20'42	17'52	7		
39	62	363	304	768	3,525	32,521	2'92	007	16'73	85	53	1'77	22'83	19'37	8		
67	118	201	489	874	3,996	43,207	1'60	01	22'73	15	56	2'56	27'59	30'20	9		
55	139	321	275	787	1,729	39,607	1'87	...	17'51	66	40	89	20'46	25'46	10		
25	53	117	354	509	2,189	31,458	1'28	009	23'77	08	44	1'91	27'51	25'34	11		
13	49	214	178	454	2,291	24,022	2'10	0009	17'62	24	42	2'15	22'55	23'18	12		
10	17	300	354	681	2,189	48,793	43	01	20'02	14	45	1'42	32'48	20'20	13		
33	49	216	323	621	1,170	42,809	35	003	20'74	06	47	1'88	33'52	20'07	14		
6	6	285	296	583	2,740	61,803	1'89	009	25'97	16	28	1'81	20'64	21'60	15		
3	30	137	174	344	1,875	20,811	1'12	...	23'09	03	47	2'57	28'30	24'83	16		
16	43	114	143	315	969	33,054	83	...	23'95	12	24	75	25'91	20'12	17		
13	8	21	7	49	524	4,282	1'0	27	19'60	4'98	33	3'53	28'00	18'78	18		
11	3	71	53	138	858	19,109	2'17	001	29'26	13	24	1'49	33'31	22'66	19		
46	87	405	116	654	5,750	41,782	2'76	005	13'55	1'15	32	2'84	20'64	20'08	20		
13	80	239	135	468	1,421	23,021	3'21	02	9'88	28	29	87	14'50	15'63	21		
29	67	801	169	1,060	14,842	58,991	4'87	08	17'70	85	56	7'86	31'25	25'15	22		
30	47	230	216	523	5,847	48,143	1'28	01	12'08	60	17	1'94	16'02	13'04	23		
5	5	591	91	692	2,067	17,000	1'23	0000	11'06	52	62	1'86	15'31	15'20	24		
8	8	470	72	558	2,270	18,905	59	03	17'60	93	68	2'78	22'44	20'04	25		
17	20	477	44	558	6,270	29,545	1'96	01	12'68	70	37	4'21	19'55	15'93	26		
16	64	400	205	685	6,746	39,431	2'96	10	16'82	1'84	40	4'58	26'79	25'67	27		
23	95	611	392	1,121	6,945	67,763	3'06	13	20'58	50	54	3'40	33'23	22'71	28		
41	90	804	176	820	5,103	60,193	7'10	06	21'12	43	43	2'75	31'91	22'92	29		
18	47	725	610	1,400	3,107	31,019	2'82	04	7'30	45	50	1'24	12'45	15'14	30		
5	3	631	633	1,160	1,782	37,642	2'23	05	10'52	69	45	60	14'66	14'20	31		
25	55	565	351	908	17,104	46,195	3'48	08	7'67	1'50	46	7'76	20'99	18'63	32		
7	23	400	255	685	5,157	42,271	7'53	35	13'37	16	40	3'03	24'86	18'04	33		
14	25	456	618	1,113	8,836	67,139	3'40	04	26'47	34	59	4'68	35'59	19'97	34		
3	5	341	358	707	6,708	54,140	2'15	004	21'83	48	37	3'51	28'35	22'72	35		
6	13	270	168	487	708	37,900	85	01	19'09	07	24	38	20'06	19'61	36		
1	3	22	147	173	627	20,652	1'09	001	27'28	06	24	89	29'58	19'69	37		
19	9	120	181	329	2,103	24,792	88	003	13'70	20	21	1'28	15'89	14'17	38		
57	151	422	308	958	7,765	32,745	2'61	38	8'77	2'16	54	4'49	18'98	19'87	39		
34	59	175	107	375	12,749	28,390	9'55	37	4'27	3'67	43	14'74	32'87	21'41	40		
16	48	176	112	352	5,124	22,278	4'57	34	8'62	4'01	36	5'53	24'08	25'03	41		
12	27	289	184	512	2,965	28,854	82	009	21'43	74	48	2'72	26'20	18'08	42		
8	7	187	319	521	7,391	41,027	5'88	04	12'93	1'95	32	4'64	25'79	16'48	43		
35	32	45	163	275	1,423	9,409	27	01	12'14	1'43	49	2'55	16'92	14'70	44		
6	13	116	135	270	2,833	18,386	19	004	13'54	80	25	2'71	17'52	14'62	45		
873	1,768	12,784	10,226	25,051	189,816	1,484,406	2'57	05	16'66	76	40	2'97	23'44	20'65	.....	
...	...	7	.....	7	124	727	1'90	03	13'11	2'43	20	3'63	21'33	40'14	1	
...	...	1	1	2	32	187	91	...	10'73	2'38	18	2'95	17'15	27'33	2		
...	...	5	1	6	77	309	3'20	...	12'25	5'21	54	7'04	28'25	29'16	3		
1	...	2	.....	3	87	235	1'01	...	6'81	1'70	16	3'04	12'53	27'68	4	
...	...	.....	.....	80	270	270	08	...	7'32	89	.....	3'75	12'96	30'35	5
...	1	.....	1	38	161	161	23	...	8'16	39	15	3'01	11'96	26'93	6	
...	...	.....	.....	13	45	45	13	...	3'18	50	.....	1'65	5'47	31'21	7
2	...	7	1	10	225	653	95	...	7'08	4'46	29	6'70	19'45	26'54	8		
...	...	1	1	2	47	177	31	...	7'99	1'81	15	3'71	14'00	16'61	9		
...	...	.....	2	2	76	333	3'58	...	13'04	4'56	16	6'20	27'16	20'80	10
...	...	2	1	3	46	208	64	...	12'10	1'83	27	4'21	19'08	15'30	11		
1	...	17	2	20	144	1,042	2'11	02	13'81	6'71	51	3'71	26'91	30'50	12		
...	...	.....	.....	1	342	53	19	...	3'99	76	.....	09	5'04	17'51	13
1	...	15	1	17	342	1,046	5'35	...	11'24	8'04	63	12'63	39'10	37'81	14		
...	...	.....	.....	44	166	166	67	...	6'11	1'49	.....	2'98	11'27	18'68	15
...	...	.....	.....	34	101	101	1'81	...	4'53	5'80	.....	6'17	18'35	26'31	16

ANNUAL FORM No VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	TOWNS—continued.					
	Howrah District.					
17	Howrah	20,813	305	12	615	340
18	Bali	14,815	58	.....	105	49
	24-Pergunnahs.					
19	Suburbs of Calcutta	251,439	2,090	6	3,675	1,817
20	South Suburban	51,658	141	.....	310	108
21	Baranagore	20,083	107	1	313	154
22	Bajpore	10,578	13	.....	141	24
23	Angurpara	22,739	47	1	290	57
24	Nawalganj	18,018	38	1	254	70
25	Naihati	21,533	23	.....	255	37
26	Basurhat	20,430	27	1	125	9
27	Buduria	19,135	17	.....	114	11
	Nuddea District.					
28	Kishnaghur	27,477	20	.....	305	22
29	Ranaghat	8,083	4	.....	37	6
30	Sahtipore	29,897	40	.....	291	14
31	Kushtia	9,717	9	.....	58	9
32	Meherpore	5,731	.....	.....	78	7
33	Nobodip	14,103	6	.....	85	7
	Jessore District.					
34	Jessore	8,405	5	.....	78	10
	Murshidabad District.					
35	Berhampore	23,605	6	.....	303	46
36	Kandi	10,661	7	.....	162	12
37	City Murshidabad	39,231	24	.....	1,226	130
38	Mungipore	10,187	5	1	142	93
	Khulna District.					
39	Satkhira	8,758	6	.....	130	1
40	Khulna	6,178	20	.....	41	7
	Dinajpur District.					
41	Dinajpur	12,560	3	1	149	33
	Rajshahy District.					
42	Beaulah	19,791	15	.....	593	62
	Rungpur District.					
43	Rungpur	13,320	34	1	205	55
	Bogra District.					
44	Bogra	6,179	2	.....	30	12
	Pubna District.					
45	Pubna	15,267	8	.....	210	63
46	Serajganj	21,037	19	.....	498	46
	Darjiling District.					
47	Darjiling	7,076	.....	2	65	38
	Julpaiguri District.					
48	Julpaiguri	7,947	10	.....	66	13
	Dacca District.					
49	Dacca	80,161	100	3	401	174
50	Narainganj	12,661	104	.....	77	36
	Faridpore District.					
51	Faridpore	10,263	6	1	65	21
	Backerganj District.					
52	Barisal	15,186	68	.....	105	34
	Mymensing District.					
53	Jamulpore	16,081	5	1	254	15
54	Kishoreganj	12,898	37	.....	74	4
55	Tangail	18,124	12	2	191	22
	Chittagong District.					
56	Chittagong	23,130	9	.....	177	42
	Coxkhali District.					
57	Sudharan	5,124	1	.....	17	5
	Tipperah District.					
58	Comillah	13,500	37	3	196	43
59	Mrahanberiah	17,543	10	.....	267	59

Districts and Principal Towns of the Bengal Province during the year 1887—continued.

8					9	10	11										12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Typhoid.	Bowel-complaints.	Injury.	All other causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
2	1	28	1	32	400	1,594	3.24	.13	5.07	3.74	.35	4.40	17.55	26.79	17		
...	1	2	1	4	54	260	3.77	...	6.05	3.30	.26	3.64	17.96	21.03	18		
6	3	76	7	92	2,025	10,005	8.31	.02	14.01	7.22	.30	11.03	42.17	43.87	19		
1	...	16	1	18	153	731	2.72	...	6.00	2.09	.34	2.90	14.13	17.07	20		
...	1	2	1	4	189	708	3.56	.03	10.43	5.13	.13	6.30	25.61	27.11	21		
1	2	6	...	7	69	254	1.22	...	13.33	2.36	.06	6.52	24.01	17.11	22		
1	...	6	...	9	64	474	2.06	.04	13.01	2.50	.39	2.81	20.84	24.38	23		
...	...	9	...	10	83	456	2.10	.05	14.09	3.88	.55	4.80	25.30	24.60	24		
...	...	6	3	9	42	396	1.00	...	11.84	1.71	.41	1.85	16.09	30.65	25		
...	1	5	3	9	43	214	1.32	.04	6.11	.44	.44	2.10	30.46	24.93	26		
...	2	1	1	4	...	140	.88	...	5.95	.57	.20	...	7.62	15.73	27		
2	2	16	4	24	136	597	.72	...	14.37	.80	.87	4.94	21.72	34.75	28		
...	...	2	...	3	6	55	.46	...	4.28	.69	.23	.60	6.33	21.07	29		
...	...	1	...	3	32	380	1.34	...	0.80	.47	.70	1.07	12.80	20.91	30		
...	...	1	3	4	6	88	.92	...	5.00	.92	.41	.72	9.05	20.27	31		
...	1	...	4	5	72	175	.42	...	13.61	1.22	.62	.17	15.52	31.23	32		
...	...	...	...	...	...	...	...	...	6.02	.40	.36	5.10	12.40	25.31	33
...	...	8	1	9	10	118	.58	...	9.18	1.17	1.05	1.89	15.89	30.84	34		
1	2	7	1	11	92	547	.21	...	16.04	1.94	.46	3.99	23.17	26.77	35		
...	1	1	1	3	27	211	.65	...	15.19	1.12	.28	2.53	19.79	21.05	36		
3	...	17	6	26	258	1,073	.61	...	31.23	3.54	.06	6.67	42.64	38.49	37		
...	...	1	1	2	40	283	.49	.09	13.93	9.12	.19	3.92	27.78	26.17	38		
1	...	4	1	6	5	148	.68	...	14.87	.11	.68	.87	16.93	21.97	39		
...	...	6	...	6	13	87	3.23	...	6.63	1.13	.97	2.10	14.08	30.43	40		
1	...	4	...	5	61	252	.25	.07	11.86	2.62	.39	4.85	20.06	20.14	41		
4	4	8	9	25	107	802	.75	...	29.00	3.13	1.26	5.40	40.52	31.07	42		
1	...	10	6	17	75	387	2.55	.07	15.39	4.12	1.27	5.03	29.05	31.90	43		
...	...	1	...	1	20	74	.32	...	6.31	1.04	.16	3.23	11.07	30.42	44		
...	2	6	5	13	202	496	.52	...	13.75	4.12	.85	13.23	32.48	29.34	45		
...	1	6	4	13	98	664	.90	...	23.19	2.18	.61	4.95	31.53	32.94	46		
...	...	2	...	2	41	148	...	.25	8.14	4.76	.25	5.14	18.53	18.30	47
...	...	2	...	2	67	148	1.25	...	8.30	1.63	.25	7.17	18.62	30.45	48		
4	1	10	...	15	570	1,261	1.24	.01	5.00	2.17	.18	7.11	15.73	25.05	49		
1	1	6	2	10	107	334	8.27	...	6.13	2.86	.79	8.51	26.59	24.52	50		
...	...	10	...	10	18	121	.58	.09	6.33	2.04	.07	1.75	11.78	31.27	51		
1	1	12	...	14	44	255	5.13	...	7.06	1.82	1.06	3.33	19.33	21.38	52		
...	...	1	2	3	60	346	.18	.06	13.00	.93	.18	4.11	21.50	27.27	53		
...	...	...	...	...	30	345	2.80	...	5.73	.31	...	2.32	11.24	24.96	54
2	1	5	3	11	20	258	.68	.11	10.53	1.21	.80	1.10	14.23	20.47	55		
1	...	6	...	7	79	314	.40	...	7.99	1.89	.31	3.55	14.18	24.53	56		
...	...	3	1	4	21	48	.19	...	3.31	.97	.78	4.09	9.36	14.63	57		
...	1	1	...	11	117	407	2.73	.22	14.51	3.18	.81	8.63	30.13	22.65	58		
1	...	6	3	10	173	627	.91	...	13.21	3.36	.57	9.97	30.04	26.90	59		

ANNUAL FORM No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	TOWNS—concluded.					
	<i>Patna District.</i>					
60	Patna	160,237	753	11	1,382	464
61	Behar	48,971	78	10	836	80
62	Dinapore	52,325	58	.....	234	114
63	Barrh	23,610	42	11	140	115
	<i>Gya District</i>					
64	Gya	76,121	668	41	1,087	371
65	Daudnagar	9,870	36	2	94	8
	<i>Shahabad District</i>					
66	Arrah	43,465	299	9	338	110
67	Dumraon	17,835	295	1	222	51
68	Buxar	17,668	80	7	128	46
	<i>Muzafferpore District.</i>					
69	Muzafferpore	42,742	52	5	135	25
70	Sitamurhi	6,125	2	4	83	35
71	Hajipore	25,695	20	6	123	137
72	Lakhanj	16,783	60	8	125	93
	<i>Durbhanga District.</i>					
73	Durbhanga	66,096	253	12	703	322
	<i>Saran District.</i>					
74	Chupra	53,249	80	7	138	106
75	Sewan	13,307	75	19	101	60
76	Revilganj	12,493	53	6	179	66
	<i>Chumparan District.</i>					
77	Bettiah	21,263	125	68	365	11
	<i>Monghyr District.</i>					
78	Monghyr	57,520	122	12	637	279
79	Jamulpore	13,563	19	1	227	41
80	Shahpura	12,517	132	.....	320	5
	<i>Bhagulpore District.</i>					
81	Bhagulpore	57,453	150	11	726	272
	<i>Purneah District.</i>					
82	Purneah	15,016	17	4	305	41
	<i>Maldah District.</i>					
83	English Bazar	12,430	3	.....	101	14
	<i>Sonthal Pergunnahs District.</i>					
84	Deoghur	8,005	34	.....	39	17
	<i>Cuttack District.</i>					
85	Cuttack	43,239	108	3	141	74
86	Kendrapara	15,607	26	14	103	26
87	Jajpore	11,233	26	5	53	32
	<i>Puri District.</i>					
88	Puri	24,784	416	6	250	245
	<i>Balasore District.</i>					
89	Balasore	20,265	131	8	133	127
	<i>Hazaribagh District.</i>					
90	Hazaribagh	15,306	4	.....	240	61
	<i>Lohardugga District.</i>					
91	Ranchi	18,443	13	3	114	19
	<i>Singbhum District.</i>					
92	Chyebassa	6,006	3	.....	94	44
	<i>Manbhum District.</i>					
93	Puruha	9,304	1	.....	118	26
	Total for Towns ...	2,409,678	3,315	331	25,195	8,405
	TOTAL FOR THE PROVINCE ...	66,163,984	172,578	3,846	1,087,768	56,993

Districts and Principal Towns of the Bengal Province during the year 1887—concluded.

8					9	10	11										12
INJURY.					All other causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents,	Snakebite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
4	38	60	2	68	1,089	3,767	4'09	'06	8'82	2'89	'42	6'70	23'50	28'25	60		
...	...	8	2	13	188	711	1'59	'20	6'86	1'75	'26	3'83	14'51	21'17	61		
...	...	7	2	9	65	480	1'11	...	4'48	2'18	'17	4'24	9'19	12'40	62		
...	...	5	2	7	97	412	1'77	'46	6'92	4'87	'29	4'10	17'45	26'81	63		
1	...	28	3	32	1,381	8,590	8'78	'53	14'41	4'87	'42	18'14	47'18	50'22	64		
...	...	3	...	3	31	174	3'64	'20	9'52	'81	'30	3'14	17'62	30'29	65		
1	...	11	3	15	147	814	6'87	'20	7'77	2'53	'84	3'38	21'12	17'34	66		
...	2	4	1	7	60	686	16'54	'03	12'44	2'85	'39	3'36	35'66	21'86	67		
...	1	5	2	8	87	356	4'53	'39	7'24	2'60	'46	4'92	20'14	20'43	68		
...	...	7	...	7	241	468	1'21	'11	3'11	'58	'16	5'63	10'83	26'20	69		
...	...	8	1	9	13	146	'32	'65	13'55	5'71	1'40	2'12	23'84	32'97	70		
...	...	12	4	16	72	880	1'01	'23	4'78	5'33	'62	2'80	14'78	19'34	71		
...	...	6	6	12	56	354	3'57	'47	7'44	5'54	'71	3'33	21'09	22'34	72		
...	1	12	3	16	372	1,768	3'82	'18	11'00	4'87	'24	5'62	26'74	27'68	73		
...	...	10	4	14	104	453	1'67	'13	2'49	1'00	'86	1'05	8'50	21'23	74		
...	...	13	2	15	168	428	5'03	1'42	7'68	4'50	1'12	11'87	32'18	29'45	75		
...	2	4	8	14	51	309	4'34	'49	14'32	5'28	1'12	4'08	29'53	31'21	76		
...	...	7	...	7	272	838	5'87	3'19	16'09	'51	'32	12'79	39'41	25'86	77		
5	3	39	12	59	335	1,444	2'12	'20	11'07	4'85	1'02	5'82	25'10	25'00	78		
...	...	4	1	5	187	460	1'40	'07	10'73	3'02	'36	12'31	33'00	40'25	79		
...	...	6	7	13	54	524	10'54	...	25'58	'39	1'03	4'31	41'80	30'27	80		
...	...	15	1	16	576	1,761	2'61	'19	12'03	4'73	'27	10'02	30'47	42'27	81		
...	...	6	2	8	70	461	1'13	'20	20'31	2'73	'53	5'06	30'03	36'50	82		
...	...	2	1	3	2	123	'24	...	8'12	1'12	'24	'16	9'89	20'01	83		
...	...	...	...	...	43	133	4'24	...	4'87	2'12	...	5'37	16'01	25'60	84
...	...	4	...	4	378	708	2'40	'06	3'26	1'71	'09	8'74	16'37	17'83	85		
...	...	1	3	4	174	317	1'05	'89	6'56	1'65	'25	11'08	22'10	24'03	86		
...	1	2	...	3	11	130	2'31	'44	4'71	2'84	'26	'97	11'67	21'36	87		
1	4	5	3	13	338	1,208	16'78	'24	10'08	9'88	'82	13'05	51'16	58'09	88		
1	...	4	6	11	94	404	5'07	'39	6'56	6'26	'54	4'63	64'37	28'96	89		
...	...	2	...	2	136	461	'26	...	15'65	5'29	'13	8'88	30'24	22'40	90		
1	...	6	...	7	64	220	'70	'16	6'18	1'03	'37	3'47	11'92	17'24	91		
...	...	3	...	3	16	160	'49	...	15'65	7'32	'40	2'66	26'64	26'30	92		
...	...	6	1	7	33	185	'10	...	12'69	2'79	'75	3'54	10'88	24'82	93		
58	49	704	168	979	14,997	58,122	3'40	'18	10'45	3'48	'40	6'22	24'12	28'98			
981	1,817	13,486	10,394	26,630	204,813	1,552,528	2'00	'06	16'44	'85	'40	3'09	23'46	20'96			

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VII.—Deaths registered from CHOLERA in the

1	2	3		4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.	June.
		Number in each District.	Number from which deaths from Cholera were reported.	Number in each District.	Number from which deaths from Cholera were reported.						
Burdwan Division.											
1	Burdwan	20	20	2,067	95	115	22	28	75	22	4
2	Bankura	13	13	5,523	61	23	20	41	18	14	16
3	Birbhum	8	8	3,273	75	96	57	59	92	24	2
4	Midnapore	29	29	14,758	1,012	400	247	368	291	266	90
5	Hughli	10	10	1,808	188	113	48	57	107	11	2
6	Serampore	8	8	924	110	93	70	62	128	21	2
	Total of Hughli, including Serampore	18	18	2,732	298	206	118	90	235	32	4
7	Howrah	8	8	1,490	278	363	97	122	124	56	16
Presidency Division.											
8	24-Pergunnahs, exclusive of Suburbs of Calcutta	31	31	5,382	798	1,478	611	589	580	188	40
	Suburbs of Calcutta	1	1	98	58	133	178	308	438	257	72
	Total of 24-Pergunnahs	32	32	5,480	856	1,611	689	897	1,028	445	112
9	Nuddea	30	30	3,071	616	876	163	91	472	581	126
10	Jessore	22	22	4,732	630	713	175	287	1,113	440	51
11	Murshidabad	27	27	3,771	311	313	108	234	671	184	24
12	Khulna	15	15	2,890	601	606	218	344	440	196	88
Rajshahye Division.											
13	Dinajpur	17	16	6,021	111	52	18	25	274	212	12
14	Rajshahye	14	14	5,206	139	197	27	26	86	101	13
15	Rangpur	17	17	6,737	477	615	176	27	1,297	1,315	284
16	Bogra	16	7	4,229	35	44	2	8	8	30	.....
17	Pabna	10	10	3,054	215	65	15	84	586	211	9
18	Darjiling	6	4	961	11	8	.....	.....	.....	1	4
19	Jalpaiguri	9	9	1,000	135	9	18	84	337	445	240
Dacca Division.											
20	Dacca	14	14	5,771	1,281	3,300	530	205	1,035	468	35
21	Faridpore	14	14	4,328	747	1,273	437	250	1,192	1,026	136
22	Buckerganj	17	17	4,330	1,251	1,084	589	2,717	3,444	1,135	251
23	Mymensing	18	18	14,676	1,346	916	750	341	578	420	218
Chittagong Division.											
24	Chittagong	14	14	1,390	139	8	16	19	140	268	97
25	Noakhali	11	10	2,628	139	246	61	51	76	20	2
26	Tipperah	13	13	6,481	732	1,332	559	353	507	214	13
Patna Division.											
27	Patna	17	17	5,959	1,097	34	19	43	221	720	615
28	Gya	14	14	6,581	1,640	12	29	214	654	4,071	2,893
29	Muzaffabad	14	14	5,673	106	127	5	160	474	1,352	2,108
30	Muzafferpore	13	13	4,374	687	37	4	28	173	2,665	1,516
31	Darbhanga	11	11	6,359	360	80	29	68	231	1,263	1,510
32	Saran	13	13	4,578	810	2	1	1	85	627	1,124
33	Chumparan	10	10	7,768	835	.....	.....	38	610	6,130	3,856
Bhagulpore Division.											
34	Monghyr	14	13	3,875	638	44	.....	23	579	2,269	1,289
35	Bhagulpore	13	13	3,248	400	9	11	211	897	1,524	506
36	Cheneh	14	14	3,620	155	253	28	18	371	613	181
37	Maldah	10	10	3,110	178	85	55	148	301	117	43
38	Sonthal Pergunnahs	6	6	11,254	128	2	13	91	57	185	78
Orissa Division.											
39	Cuttack	13	13	9,105	1,154	524	206	382	202	248	198
40	Puri	6	6	5,186	1,413	278	61	565	712	581	1,517
41	Balasore	10	10	6,432	1,116	410	209	450	528	775	442
Chota Nagpore Division.											
42	Hazaribagh	17	15	7,731	116	.....	.....	15	33	289	268
43	Lohardugga	22	17	7,707	652	.....	.....	263	133	370	1,075
44	Singbhum	6	6	3,063	32	.....	.....	3	8	45	52
45	Manbhum	17	14	6,140	51	.....	.....	46	88	25	1
TOTAL FOR THE PROVINCE		645	627	231,946	23,894	10,662	5,804	8,024	21,008	32,435	21,188

OFFICE OF THE SANY. COMM. FOR BENGAL., }

The 2nd March 1888.

Districts of the Bengal Province during each month of the year 1887.

5						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
69 73 8 46 21 10	155 74 18 230 8 11	24 16 8 94 3 24	1 86 11 20	6 6 410 20 33	33 1 4 930 47 11	284 150 178 2,056 250 201	264 152 190 1,861 108 224	548 302 368 3,917 458 425	·42 ·20 ·40 1·05 ·79 1·40	·36 ·28 ·46 1·40 ·56 1·26	·39 ·28 ·46 1·55 ·07 1·37	2·20 1·12 2·54 1·53 1·21 1·88	1 2 3 4 5 6
31	19	27	31	53	78	511	422	933	1·04	·80	·91	1·44	
18	49	41	57	58	243	709	535	1,244	2·24	1·67	1·95	2·39	7
43 101	46 49	47 56	92 101	142 140	800 257	2,480 1,395	2,069 605	4,575 2,000	8·00 0·47	2·63 6·66	2·82 8·31	2·06 8·58	8
144	95	103	183	282	1,066	3,884	2,781	6,665	3·08	3·10	3·58	3·45	
49 33 2 85	57 16 11 8	18 12 10	16 2 1	81 22 1 60	144 220 125	1,296 1,631 767 1,330	1,288 1,418 744 934	2,674 3,047 1,511 2,270	1·72 1·70 1·30 2·35	1·31 1·44 1·16 1·82	1·81 1·57 1·23 2·10	5·13 3·45 2·46 2·10	9 10 11 12
7 10 68	6 17	9 2 1	6 4 3	20 20 37	8 3 3	329 272 2,021	320 217 1,901	649 489 3,922	·42 ·41 1·89	·43 ·31 1·90	·42 ·36 1·80	·64 3·03 1·24	13 14 15
3 8 63	..... ..... 51	1 1 6	..... 2 1	35 1 1	132 1	575 11 617	510 5 638	1,091 16 1,255	·12 ·12 2·01	·13 ·77 2·31	·18 ·86 2·15	1·95 2·37 1·46	16 17 18 19
11 32 60 50	17 4 20 13	2 4 13 17	7 6 16 18	34 16 20 16	161 50 62 505	2,816 2,442 4,852 2,127	2,084 2,384 4,032 1,789	5,800 5,226 8,885 3,911	2·72 3·52 4·08 1·36	2·75 2·98 4·34 1·10	2·74 3·20 4·67 1·28	2·48 3·27 3·04 1·88	20 21 22 23
65 4 2	141	55 5	136 4 4	211 4	221 10 7	724 248 1,521	653 240 1,451	1,377 488 2,075	1·36 ·59 1·97	1·04 ·59 1·03	1·21 ·59 1·95	1·08 ·79 1·85	24 25 26
2,135 5,294 6,132 1,173 1,328 2,688 901	1,155 2,881 2,700 813 688 2,617 970	121 309 574 400 392 579 321	72 87 286 282 322 152 99	89 60 118 87 60 152 4	68 19 1 8 143 1	2,770 9,111 7,430 3,930 3,305 4,184 7,102	1,513 8,008 6,837 3,247 2,789 3,710 3,828	5,292 17,110 14,067 7,188 5,094 7,894 12,929	3·23 8·73 7·81 3·11 2·47 3·86 8·15	2·79 7·40 6·54 2·46 2·08 3·69 6·84	3·01 8·05 7·15 2·78 2·27 3·66 7·50	1·81 2·13 2·27 2·33 1·79 1·10 1·46	27 28 29 30 31 32 33
1,294 351 46 4 96	1,014 368 46 72	135 188 9 20	92 78 98 8 31	21 43 14 4 10	..... 29 1 18	3,006 2,207 831 439 353	3,204 4,207 746 335 272	6,810 4,207 1,677 765 630	3·72 2·25 ·88 1·23 ·46	3·20 2·08 ·81 ·98 ·34	2·45 2·17 ·5 1·07 ·40	1·46 1·79 1·02 2·20 1·31	34 35 36 37 38
1,010 2,909 746	864 941 203	427 270 89	201 163 55	176 304 181	224 348 269	2,305 4,516 2,260	2,306 4,152 2,087	4,671 8,668 4,353	2·02 10·11 4·01	2·58 9·39 4·31	2·60 9·77 4·60	3·08 3·86 4·86	39 40 41
217 2,789 46 9	61 2,778 8 9	20 1,329 5	..... 500 2 .....	..... 158 3 .....	..... ..... 19	500 4,053 69 95	403 4,590 150 110	903 9,375 150 205	·91 6·25 ·31 ·18	·71 5·40 ·24 ·20	·81 5·82 ·27 ·19	1·07 ·33 ·19 1·01	42 43 44 45
30,566	19,268	5,761	2,946	2,748	5,208	91,832	80,746	172,578	2·79	2·42	2·60	2·11	

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VIII.—Deaths registered from SMALL-POX in the

1	2	3	4	5	6	7	8	9	10	11
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths from Small-pox were reported.	Number in each District.	Number from which deaths from Small-pox were reported.					
	<i>Burdwan Division.</i>									
1	Burdwan	20	4	3,067	4			5		
2	Hankura	13		5,523						
3	Rirbhun	8		3,273						
4	Midnapore	26	8	14,754	12		3	1	1	2
5	Hughli	10	2	1,808	2	1				
6	Serampore	8		924						
	Total of Hughli, including Serampore ...	18	2	2,732	2	1				
7	Howrah	8	1	1,406	8				5	2
	<i>Presidency Division.</i>									
8	24-Pergunnahs, exclusive of Suburbs of Calcutta ...	31	10	5,382	8	4	1	3		4
	Suburbs of Calcutta	1	1	98	2					1
	Total of 24-Pergunnahs ...	32	11	5,480	10	4	1	3		5
9	Nuddes	31	6	3,071	16	1	2	2		3
10	Jessore	22		4,732						
11	Murshidabad	27	0	3,771	11					
12	Khulna	15	1	2,890	1	2	1	5	1	4
	<i>Rajshahye Division.</i>									
13	Dinnajpur	17	5	6,921	10				1	8
14	Rajshahye	14	1	5,200	2			1	2	
15	Rungpur	17	3	6,747	9				15	6
16	Bogra	10		4,220						
17	Patna	10		3,954						
18	Darjiling	6	4	961	21	1		4	19	10
19	Jalpaiguri	9	1	1,060	1					1
	<i>Dacca Division.</i>									
20	Dacca	14	5	5,771	13	8	3	1		1
21	Faridpore	14	5	4,326	5	1		2	1	
22	Backerganj	17	15	4,396	74	23	22	19	12	11
23	Mymensing	18	12	14,670	29		6	8	15	7
	<i>Chittagong Division.</i>									
24	Chittagong	14	1	1,390	1					1
25	Noakhali	10	4	2,628	15	3	9	9	5	1
26	Tipperah	13	5	6,481	10	8	3	3	1	6
	<i>Patna Division.</i>									
27	Patna	17	15	5,959	90	3	5	8	27	30
28	Gya	14	14	6,531	209	5	3	23	44	102
29	Shahabad	14	12	5,073	112	20	6	13	19	10
30	Mozufferpore	13	15	4,374	87	6	10	53	35	30
31	Darbhanga	11	11	6,359	102		21	21	30	34
32	Sarun	13	13	4,578	111	2	4	7	29	70
33	Chunpurn	10	10	7,768	290	10	13	59	113	181
	<i>Bhagulpore Division.</i>									
34	Monghyr	14	11	3,875	66	0	7	12	27	17
35	Bhagulpore	13	7	3,248	14		2	1	7	6
36	Purneah	14	7	3,626	19			3	2	2
37	Maldah	10	1	3,110	1					1
38	Sonthal Pergunnahs	6	2	11,254	4				2	
	<i>Orissa Division.</i>									
39	Cuttack	13	13	9,165	390	37	133	186	142	66
40	Puri	6	6	5,198	167	6	8	14	31	25
41	Balasore	10	10	6,432	163	118	92	69	18	15
	<i>Chota Nagpore Division.</i>									
42	Hazaribagh	17	5	7,731	10				1	
43	Lohardugga	23	12	7,797	57			2	2	6
44	Singbhum	6	2	3,083	5		1			
45	Manbhum	17	4	6,140	3		1	1	3	
	TOTAL FOR THE PROVINCE ...	645	208	231,046	2,098	269	350	507	621	672

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 2nd March 1888.

Districts of the Bengal Province during each month of the year 1887.

							6			7		8			9	10
							TOTAL.			NUMBER OF THESE DEATHS AMONG CHILDREN.		TOTAL RATIO PER 1,000 OF POPULATION.			Mean ratio per 1,000 of previous five years.	Number.
June.	July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Under one year.	Under twelve years.	Male.	Female.	Total.		
.....	.....	1	.....	7	4	1	9	9	18	.....	.....	'01	'01	'01	'07	1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	'02	2
3	1	1	.....	.....	.....	1	4	8	12	.....	1	'003	'006	'004	'01	3
.....	.....	.....	.....	.....	.....	.....	1	1	2	.....	.....	'003	'002	'003	'03	4
.....	.....	1	.....	.....	.....	.....	1	1	2	.....	.....	'002	'001	'001	'03	5
.....	1	1	.....	2	1	.....	5	7	12	4	11	'01	'02	'01	'03	6
.....	.....	.....	1	1	.....	1	8	7	15	2	3	'009	'008	'009	'03	7
.....	.....	.....	.....	2	3	.....	4	2	6	.....	1	'02	'01	'02	'36	8
.....	.....	.....	1	3	3	1	12	9	21	2	4	'01	'01	'01	'07	9
3	.....	1	.....	1	3	3	11	8	19	3	11	'01	'009	'01	'05	10
.....	.....	.....	.....	.....	.....	.....	6	6	12	.....	8	'01	'009	'009	'08	11
.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	'001	.....	'0009	'006	12
1	5	.....	2	.....	.....	2	13	6	19	1	5	'01	'008	'01	'01	13
1	.....	.....	.....	.....	.....	.....	2	2	4	2	3	'003	'002	'002	'02	14
.....	.....	.....	.....	.....	.....	.....	9	13	21	2	3	'008	'01	'01	'002	15
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	'008	16
4	3	1	1	.....	.....	.....	24	19	43	.....	.....	'26	'28	'27	'11	17
.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	1	.....	'003	'001	'008	18
.....	.....	.....	.....	.....	.....	.....	10	3	13	.....	9	'009	'002	'006	'11	19
1	.....	.....	1	.....	3	28	23	14	37	.....	.....	'02	'01	'02	'06	20
4	6	.....	5	8	29	23	108	59	167	6	38	'11	'06	'08	'16	21
2	3	17	2	.....	1	1	28	34	62	1	11	'01	'02	'02	'11	22
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24
.....	.....	.....	.....	.....	.....	.....	17	10	27	2	9	'04	'02	'03	'38	25
4	1	.....	.....	.....	.....	1	21	6	27	3	12	'02	'008	'01	'18	26
16	33	16	14	3	8	25	97	90	187	19	186	'11	'10	'10	'35	27
64	30	17	4	4	9	13	163	156	319	34	203	'15	'14	'15	'47	28
14	9	15	7	6	2	.....	67	69	136	28	136	'07	'06	'06	'13	29
12	8	.....	1	3	1	1	77	63	140	20	91	'06	'04	'05	'11	30
25	8	6	1	1	1	2	71	87	158	50	122	'05	'06	'05	'12	31
47	33	17	12	5	1	2	121	105	226	73	215	'11	'09	'10	'35	32
120	66	34	9	15	24	30	382	292	674	210	621	'43	'34	'39	'74	33
8	5	3	1	.....	1	5	48	44	92	28	76	'04	'04	'04	'25	34
1	.....	1	1	.....	.....	.....	10	9	19	5	15	'01	'009	'009	'25	35
5	8	.....	.....	1	4	1	10	16	26	4	9	'01	'01	'01	'01	36
.....	.....	.....	.....	.....	.....	.....	1	.....	1	1	1	'002	.....	'001	'03	37
.....	3	.....	.....	.....	.....	.....	2	3	5	.....	3	'002	'003	'003	'08	38
87	16	19	12	2	6	26	320	362	682	177	681	'36	'39	'37	'61	39
13	20	8	16	21	36	43	116	125	241	41	181	'25	'28	'27	'51	40
7	6	5	1	.....	2	9	172	158	330	33	215	'37	'32	'35	'46	41
2	4	.....	1	.....	2	.....	7	3	10	1	4	'01	'005	'009	'25	42
21	18	17	.....	.....	1	.....	39	28	67	1	6	'04	'03	'04	'12	43
.....	.....	.....	.....	1	.....	2	2	4	6	1	4	'007	'01	'01	'14	44
.....	.....	.....	.....	.....	.....	.....	3	2	5	.....	3	'005	'003	'004	'43	45
415	285	185	92	83	148	219	2,012	1,834	3,846	752	2,799	'06	'05	'05	'16	

B. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM NO. IX.—Deaths registered from **FEVERS** in

1	2	3	4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths from Fever were registered.	Number in each District.	Number from which deaths from Fever were registered.					
Burdwan Division.										
1	Burdwan	20	20	3,667	3,517	2,130	1,641	1,768	1,748	1,558
2	Bankura	13	13	5,523	3,398	1,160	984	1,135	974	990
3	Birbhum	8	8	3,273	2,548	1,342	1,084	1,305	1,301	1,008
4	Midnapore	29	29	14,758	9,798	5,686	3,141	3,377	2,909	2,841
5	Hughli	10	10	1,808	1,615	1,189	898	938	734	670
6	Serampore	8	8	924	693	440	328	327	304	268
	Total of Hughli, including Serampore ...	18	18	2,732	2,308	1,638	1,226	1,265	1,038	938
7	Howrah	8	8	1,406	1,095	598	462	415	441	387
Presidency Division.										
8	24-Pergunnahs, exclusive of Suburbs of Calcutta...	31	31	5,382	4,322	2,645	1,736	1,716	1,627	1,575
	Suburbs of Calcutta	1	1	98	64	361	268	230	254	227
	Total of 24-Pergunnahs ...	32	32	5,480	4,386	3,006	2,004	1,946	1,881	1,802
9	Nuddea	31	31	3,071	2,513	3,335	2,286	2,473	2,553	2,958
10	Jessore	22	22	4,782	4,195	4,343	2,344	2,431	2,761	2,468
11	Murshidabad	27	27	3,771	3,245	2,197	1,509	1,705	2,375	1,892
12	Khulna	15	15	2,890	2,333	2,372	1,451	1,148	1,288	1,029
Rajshahye Division.										
13	Dinajpur	17	17	6,021	6,140	5,178	3,455	3,523	3,779	3,300
14	Rajshahye	14	14	5,206	4,636	4,975	2,933	2,163	2,806	3,547
15	Rangpur	17	17	6,787	4,220	6,324	4,420	4,604	4,649	3,655
16	Bogra	10	10	4,229	2,877	2,927	1,947	1,227	1,412	1,545
17	Pubna	10	10	3,054	3,171	3,409	2,576	2,355	3,304	3,169
18	Darjiling	5	5	961	49	242	243	214	242	273
19	Jalpaiguri	9	9	1,060	932	1,003	1,393	1,462	1,573	1,539
Dacca Division.										
20	Dacca	14	14	5,771	4,830	3,311	2,296	2,177	2,279	2,079
21	Faridpore	14	14	4,326	2,317	2,037	1,301	1,121	1,543	1,273
22	Buckerganj	17	17	4,330	2,833	4,749	2,623	2,615	2,611	2,146
23	Mymensing	18	18	14,076	3,487	3,293	2,679	2,377	2,935	3,106
Chittagong Division.										
24	Chittagong	14	14	1,390	960	1,213	988	959	906	890
25	Noakhali	10	10	2,628	1,802	1,464	1,193	1,160	1,302	1,245
26	Tipporah	13	13	6,481	4,102	2,125	1,457	1,441	1,669	1,617
Patna Division.										
27	Patna	17	17	5,959	3,845	1,955	1,341	1,179	1,497	2,391
28	Gya	14	14	6,531	4,923	2,806	1,935	2,555	2,624	4,244
29	Shahabad	14	14	5,673	4,853	3,816	2,252	2,215	2,446	2,728
30	Mozufferpore	13	13	4,374	3,553	1,944	1,195	1,234	1,371	1,457
31	Darbhanga	11	11	6,359	2,097	2,152	1,834	1,601	2,108	2,195
32	Saran	13	13	4,578	1,821	1,103	968	977	1,230	1,587
33	Chumpran	10	10	7,763	2,484	2,152	1,401	1,526	1,608	2,139
Bhagulpoze Division.										
34	Monghyr	14	14	3,875	3,093	4,047	2,724	2,931	3,598	5,040
35	Bhagulpoze	13	13	3,248	2,747	3,290	2,607	2,703	3,224	3,463
36	Purneah	14	14	3,626	3,609	3,376	2,711	2,590	2,622	2,183
37	Maldah	10	10	3,110	2,760	1,513	965	890	1,318	1,220
38	Sonthal Pergunnahs	6	6	11,254	6,695	1,610	1,309	1,421	2,009	1,906
Orissa Division.										
39	Cuttack	13	13	9,165	5,276	1,617	1,447	1,377	1,232	1,023
40	Puri	6	6	5,166	1,803	533	377	396	304	275
41	Balasore	10	10	6,432	2,846	1,235	679	645	616	453
Chota Nappore Division.										
42	Hazaribagh... ..	17	17	7,731	5,009	1,587	1,284	1,442	1,855	1,928
43	Lohardugga	22	22	7,797	4,505	1,016	1,024	1,400	1,549	1,700
44	Singbhum	6	6	3,093	1,960	540	523	544	554	521
45	Manbhum	17	17	6,140	3,960	1,027	852	1,052	1,209	1,418
	TOTAL FOR THE PROVINCE ...	645	645	231,940	149,016	106,105	74,363	75,365	83,283	85,150

OFFICE OF THE SANY. COMM. FOR BENGAL, }

The 2nd March 1888.

the Districts of the Bengal Province during each month of the year 1887.

5							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
1,076	1,261	1,613	1,448	2,120	2,395	2,647	11,036	10,369	21,405	16'51	14'33	15'37	20'78	1
768	865	1,165	848	1,153	1,300	1,196	6,739	5,707	12,506	13'28	10'78	12'00	10'33	2
812	969	1,204	1,061	1,592	1,980	2,036	7,841	7,852	15,693	20'54	19'01	19'75	20'66	3
2,270	2,773	3,431	3,109	3,703	4,122	4,442	20,903	19,061	39,964	16'73	14'98	15'84	14'99	4
409	519	621	631	998	1,195	1,318	5,200	4,080	10,180	16'47	14'33	15'35	16'72	5
179	178	270	261	374	455	452	2,064	1,781	3,845	11'83	10'02	10'92	11'74	6
648	697	891	892	1,372	1,650	1,770	7,264	6,761	14,025	14'92	12'87	13'81	15'00	
204	292	531	468	720	861	835	3,506	2,798	6,304	11'07	8'77	9'92	8'62	7
1,232	1,570	2,103	1,943	2,731	3,237	3,627	13,953	11,680	25,632	16'84	14'79	15'84	14'09	8
104	267	280	316	325	496	468	1,965	1,600	3,565	13'48	10'21	14'61	15'90	
1,426	1,827	2,383	2,258	3,056	3,733	3,095	15,918	13,379	29,297	16'33	14'95	15'67	14'35	
1,784	1,634	2,007	2,556	4,243	5,517	4,386	19,578	16,844	36,422	24'29	19'81	21'09	28'34	9
1,752	1,709	1,977	2,162	3,130	4,370	4,448	18,536	15,368	33,904	19'42	15'07	17'18	20'52	10
1,336	1,685	2,120	2,622	4,030	4,419	3,346	15,839	13,767	29,606	26'15	21'50	23'72	21'19	11
882	1,021	1,255	1,488	1,951	2,455	2,005	9,091	9,249	18,340	17'05	18'08	17'54	18'08	12
2,629	2,798	2,962	3,030	5,034	4,682	4,849	24,580	20,667	45,247	31'42	28'23	29'87	18'15	13
2,340	2,425	2,059	2,781	4,767	4,619	4,463	21,615	19,523	41,138	32'73	28'77	30'73	26'73	14
3,372	3,570	3,295	3,633	4,609	0,170	6,047	20,477	24,840	45,317	27'60	24'14	25'90	18'82	15
1,060	1,165	1,377	1,285	1,788	1,898	2,163	9,723	8,593	18,316	26'08	23'75	24'94	20'65	16
1,864	1,718	1,850	1,535	2,828	3,144	3,521	17,383	13,874	31,257	26'81	20'01	23'82	24'23	17
273	229	240	229	243	235	307	1,729	1,240	2,969	19'34	18'71	19'07	9'35	18
1,307	1,139	905	822	1,010	1,632	1,810	8,950	7,860	16,810	29'41	23'49	28'98	20'07	19
1,512	1,461	1,578	1,708	2,023	3,352	3,527	14,793	13,110	27,903	14'30	12'11	13'18	13'34	20
969	1,170	1,004	733	1,594	1,557	1,787	8,873	7,416	16,289	11'00	8'73	9'86	10'78	21
1,700	1,955	2,037	2,118	3,077	3,964	3,856	17,183	16,348	33,531	17'65	17'02	17'63	15'00	22
2,075	3,052	2,091	2,338	3,448	3,927	4,126	20,502	16,285	36,787	13'23	10'80	12'07	8'90	23
834	1,065	1,141	971	986	1,131	1,348	6,500	5,864	12,363	12'41	9'76	11'00	11'42	24
1,170	1,141	944	870	1,052	1,273	1,483	7,133	7,164	14,297	17'17	17'66	17'41	15'42	25
1,481	1,815	1,711	1,115	1,472	1,631	1,756	10,251	8,939	19,190	13'29	11'94	12'63	10'94	26
2,014	3,565	3,900	2,715	2,605	2,138	1,561	13,872	12,980	26,851	16'15	14'47	15'28	15'38	27
3,380	4,586	6,478	4,190	4,124	3,703	2,539	21,431	21,721	43,152	20'54	20'09	20'31	17'92	28
3,085	4,793	4,073	4,421	3,874	3,444	2,301	22,017	18,519	40,536	23'16	18'25	20'62	17'36	29
1,458	1,571	1,709	1,481	1,741	1,976	1,662	10,743	7,920	18,663	8'48	6'02	7'25	9'42	30
2,171	2,435	2,334	2,490	2,738	3,064	2,630	15,327	12,485	27,812	11'82	9'33	10'56	10'16	31
1,615	2,170	2,272	1,762	1,355	1,384	954	9,914	7,400	17,314	10'14	6'18	7'59	7'34	32
1,911	2,161	1,693	1,956	2,077	2,448	1,823	12,096	10,099	22,095	14'92	11'86	13'41	11'60	33
3,895	4,202	5,302	4,508	5,288	5,413	4,037	20,420	24,695	45,115	27'26	24'67	25'94	16'39	34
3,196	3,546	3,641	3,729	4,426	4,522	4,020	22,250	20,147	42,397	22'72	20'41	21'56	17'60	35
1,966	1,832	1,894	2,163	3,684	4,039	5,375	19,323	16,002	35,325	20'62	17'55	19'10	17'33	36
787	947	1,272	1,801	2,749	3,114	2,801	10,729	8,418	19,147	30'01	23'10	26'55	16'42	37
1,937	2,037	2,173	1,809	1,779	1,708	1,666	11,856	9,507	21,423	15'09	12'22	13'66	11'34	38
773	937	1,082	1,201	1,331	1,636	1,780	7,571	7,865	15,436	8'62	8'56	8'59	8'06	39
229	171	201	262	298	435	409	1,829	2,114	3,943	4'09	4'74	4'43	3'92	40
407	503	669	632	731	820	825	4,024	4,091	8,115	8'72	8'45	8'58	8'44	41
1,634	2,324	2,635	2,211	2,305	2,875	2,027	12,170	11,427	23,597	22'38	20'41	21'35	14'98	42
1,549	1,700	2,180	2,315	2,521	1,927	1,678	11,105	9,586	20,691	19'93	17'79	18'85	12'30	43
503	570	705	646	564	627	610	3,084	3,162	6,246	13'11	11'25	12'18	10'38	44
1,007	1,459	1,604	1,306	1,079	110	1,093	7,792	6,533	14,325	14'88	12'25	13'53	10'34	45
69,851	80,808	91,403	82,826	107,579	119,031	113,204	580,220	507,542	10,87,768	17'67	15'22	16'44	14'84	

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

ANNUAL FORM No. X.—Deaths registered from BOWEL-COMPLAINTS

1	2	3	4								
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.	June.
		Number in each Dis- trict.	Number from which deaths from Bowel- complaints register- ed.	Number in each District.	Number from which deaths from Bowel- complaints register- ed.						
Burdwan Division.											
1	Burdwan	20	20	8,667	253	74	39	29	41	36	32
2	Hankura	13	13	5,523	216	34	24	49	25	25	25
3	Birbhum	8	8	3,273	80	12	10	18	11	11	6
4	Midnapore	29	29	14,758	1,838	406	288	311	244	266	231
5	Hughli	10	10	1,808	570	170	136	116	97	68	54
6	Serampore	8	8	924	322	161	97	69	57	48	47
	Total of Hughli, including Serampore	18	18	2,732	892	331	233	185	154	116	101
7	Howrah	8	8	1,496	729	297	195	186	126	111	112
Presidency Division.											
8	24-Pergunnahs, exclusive of Suburbs of Calcutta.	31	31	5,382	795	260	159	131	115	95	98
	Suburbs of Calcutta	1	1	98	83	262	161	118	91	88	66
	Total of 24-Pergunnahs	32	32	5,480	878	522	320	249	206	183	164
9	Nuddea	31	25	3,071	151	55	21	24	35	31	27
10	Jessore	18	18	4,782	75	6	9	21	7	12	7
11	Murshidabad	27	23	3,771	102	34	30	28	20	35	17
12	Khulna	15	15	2,890	208	36	19	29	23	20	13
Rajshahye Division.											
13	Dinajpur	17	17	6,021	141	28	17	22	24	25	20
14	Rajshahye	14	11	5,206	48	11	5	6	20	15	6
15	Runkpur	17	17	6,737	200	40	38	85	65	64	30
16	Hogra	10	8	4,229	19	3	.....	.....	2	5	2
17	Pubna	10	10	3,054	140	30	26	24	34	34	14
18	Darjiling	5	5	961	158	31	21	22	34	87	146
19	Jalpaiguri	9	7	1,060	57	9	3	23	5	25	4
Dacca Division.											
20	Dacca	14	14	5,771	818	550	350	226	311	244	124
21	Faridpore	14	14	4,326	272	93	57	49	67	53	17
22	Backerganj	17	17	4,350	300	103	67	75	79	70	43
23	Mymensing	18	18	14,076	947	178	72	54	182	250	170
Chittagong Division.											
24	Chittagong	14	14	1,390	271	63	35	29	57	60	37
25	Naokhal	10	10	2,628	282	106	57	62	131	117	40
26	Tipperah	13	12	6,481	509	122	90	80	126	100	58
Patna Division.											
27	Patna	17	17	5,059	1,122	254	127	147	171	306	238
28	Gya	14	14	6,531	481	70	62	47	71	116	111
29	Shahabad	14	14	5,073	578	54	21	20	64	76	64
30	Mozufferpore	13	13	4,374	694	138	102	113	119	143	142
31	Durbhanga	11	11	6,559	823	223	159	122	166	205	175
32	Sarun	13	13	4,678	650	188	197	183	194	254	359
33	Chumpran	10	10	7,706	142	7	7	9	19	51	34
Bhagulpore Division.											
34	Monghyr	14	14	3,875	388	49	59	51	61	118	137
35	Buagulpore	13	13	8,244	604	84	66	63	97	115	92
36	Patna	14	14	3,026	73	13	9	6	14	35	11
37	Malah	10	6	3,110	29	15	5	2	11	4	1
38	Sonthal Pergunnahs	6	6	11,254	198	26	13	38	46	14	37
Orissa Division.											
39	Cuttack	13	13	9,165	2,309	328	327	374	314	288	220
40	Puri	6	6	5,186	1,488	351	291	243	246	240	237
41	Balasore	10	10	6,432	1,036	428	383	382	352	342	300
Chittagong Division.											
42	Hazaribagh	17	17	7,731	401	37	40	40	75	96	79
43	Leonardpore	22	22	7,797	1,174	85	121	114	161	269	270
44	Singbhum	6	6	3,093	472	63	46	43	51	70	80
45	Manbhum	17	17	6,140	748	41	61	85	99	100	81
	TOTAL FOR THE PROVINCE	645	619	2,31,946	23,905	5,632	4,092	3,996	4,373	4,854	4,114

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 2nd March 1888.

in the districts of the Bengal Province during each month of the year 1887.

5						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous five years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
30	51	48	34	53	71	340	180	538	52	26	38	52	1
34	47	22	17	27	24	220	128	354	44	21	33	57	2
16	19	8	4	7	2	75	49	124	10	11	15	21	3
314	276	204	347	312	436	2,088	1,695	3,873	107	124	146	158	4
66	100	84	120	128	162	667	640	1,307	211	184	197	216	5
47	70	78	85	68	109	484	446	934	270	251	265	264	6
113	170	160	211	196	271	1,155	1,086	2,241	235	206	220	233	
98	177	141	214	238	320	1,133	1,091	2,224	358	342	350	389	7
117	138	120	148	147	163	917	774	1,691	10	97	104	88	
107	140	162	143	208	265	1,080	728	1,817	739	608	722	701	8
224	244	282	291	355	428	2,006	1,502	3,508	205	167	187	171	
20	19	10	8	23	28	188	122	310	23	14	18	43	9
5	12	6	16	9	23	80	44	133	69	38	66	12	10
10	35	34	34	49	51	233	153	388	80	23	31	29	11
8	18	16	25	25	34	167	100	268	27	21	24	26	12
10	8	9	86	26	19	150	94	244	19	12	16	19	13
7	14	16	16	19	12	104	43	147	15	66	10	11	14
26	22	16	20	20	10	203	142	405	24	13	19	19	15
...	6	2	4	3	11	25	11	36	66	63	64	12	16
15	6	15	9	24	28	168	98	266	25	14	20	27	17
135	128	64	42	26	37	425	332	777	475	527	497	248	18
4	1	1	6	3	7	65	36	91	18	13	15	20	19
125	72	84	111	190	168	1,285	1,170	2,555	133	108	120	140	20
17	25	15	21	31	38	204	100	483	36	23	29	40	21
45	40	33	39	45	60	376	321	697	38	34	36	38	22
98	92	70	130	169	137	944	628	1,572	60	41	51	41	23
47	85	36	37	57	85	315	313	628	59	52	55	54	24
32	28	20	14	30	51	350	338	688	84	83	83	31	25
38	44	95	103	135	153	663	463	1,140	80	64	75	43	26
474	674	398	286	211	208	1,905	1,589	3,494	221	176	198	236	27
250	255	146	115	79	91	820	593	1,413	78	54	66	48	28
100	191	121	92	86	42	612	415	1,027	64	40	52	39	29
111	115	130	108	133	90	902	532	1,434	71	49	55	64	30
212	181	165	161	172	175	1,246	870	2,116	90	65	80	111	31
618	480	374	330	290	185	2,006	1,546	3,552	185	129	155	177	32
46	34	36	17	13	17	173	117	290	19	13	16	22	33
90	127	88	84	60	44	597	371	968	61	37	46	36	34
133	142	134	99	91	85	743	458	1,201	75	46	61	45	35
29	8	12	12	14	12	90	80	170	10	68	69	16	36
2	2	1	3	6	5	29	28	57	68	67	68	65	37
38	67	19	19	15	10	220	112	332	28	14	21	31	38
320	375	336	312	317	303	2,209	1,605	3,874	258	174	215	201	39
258	333	270	267	281	268	1,809	1,322	3,331	405	344	374	274	40
800	402	369	339	300	376	2,387	2,006	4,393	517	414	463	330	41
121	134	110	66	34	51	549	343	892	100	61	80	66	42
355	634	511	297	183	121	1,782	1,346	3,131	223	166	194	133	43
85	117	70	72	64	77	474	384	844	100	130	140	140	44
100	79	64	68	56	40	542	331	873	103	82	82	93	45
5,178	6,017	4,846	4,530	4,477	4,784	32,381	24,512	56,893	99	73	85	89	

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

APPENDIX No. II.



STATEMENT AND MAP ILLUSTRATING THE DISTRIBUTION
OF CHOLERA IN BENGAL

DURING THE YEAR 1887.

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE — Affected by Cholera. Not affected by Cholera.	
Burdwan	1	Burdwan ... T.	34,080	January 1887 ...	December 1887...	65	March, May, August and September.	1	1	.....
	2	Kulna	10,901	Ditto	July	10	January, February, April and July.	1	1	.....
	3	Raniganj	10,937	March	December	35	March to August, November and December.	1	1	.....
	4	Burdwan ... R. C.	27,830	Ditto	April	13	April	105	3	102
	5	Selmabad	71,709	August	August	8	August	228	2	226
	6	Royna	97,190	January	September	68	January, April, August and September.	206	8	258
	7	Khandghose	54,981	August	November	46	August and September	146	4	142
	8	Gangoor	102,748	February	June	15	Slight	873	2	371
	9	Sahebganj	75,171	July	July	19	July	166	2	164
	10	Hood-Hood	70,073	April	August	24	April and August	209	5	204
	11	Ausgrain	97,311	January	Ditto	20	August	232	3	229
	12	Kulna	81,583	Ditto	April	16	March	266	6	260
	13	Purnasthali	62,070	Ditto	December	22	January and December	251	2	249
	14	Montessur	63,053	Ditto	April	9	Slight	183	6	177
	15	Cuttwa	82,943	Ditto	December	14	January	167	12	155
	16	Katugram	73,723	Ditto	August	59	Ditto	179	18	161
	17	Mongolekoto	73,543	Ditto	July	45	January, April and July	182	10	172
	18	Raniganj	135,646	February	December	17	December	290	2	288
	19	Kakaa	38,089	January	August	6	Slight	111	2	109
	20	Assensolo	98,842	February	Ditto	33	August	310	5	305
		District Total ...	1,301,823	January	December	548	Ditto	3,007	96	3,572
Bankura	21	Bankura ... T.	18,747	January	August	19	February, March, July and August.	1	1	.....
	22	Bissenpore	21,283	February	Ditto	21	March, May, July and August.	1	1	.....
	23	Sonamukhi	12,616	July	July	3	July	1	1	.....
	24	Bankura ... R. C.	108,804	January	August	9	Very slight	727	5	723
	25	Gangajalghati	172,607	Ditto	November	59	July	753	13	742
	26	Anda	110,321	Ditto	September	32	Ditto	760	5	755
	27	Soopore	96,122	March	July	12	May	845	3	842
	28	Raipore	96,802	April	August	18	August	679	1	678
	29	Simlapal	32,682	February	March	12	February and March	288	5	283
	30	Bissenpore	119,686	March	December	62	March, July and August	514	13	501
	31	Sonamukhi	67,400	September	September	6	Slight	272	2	270
	32	Indus	78,800	July	August	18	July	317	3	314
	33	Kotalpur	94,364	January	September	31	Slight	463	8	455
		District Total ...	1,041,752	January	December	302	Ditto	5,523	61	5,462
Birbhum	34	Soori T.	7,848	April	April	1	April	1	1	.....
	35	Soori R. C.	118,891	January	July	52	January and February...	569	6	563
	36	Dubrajnora	126,506	February	August	28	Slight	431	3	428
	37	Bolpur	107,363	January	September	72	January and April	433	12	421
	38	Sakulipur	122,723	Ditto	December	31	August	569	10	579
	39	Rampurhat	87,774	Ditto	May	77	February to May	346	18	330
	40	Monteswar	88,830	Ditto	March	58	January and February	374	9	365
	41	Nulhati	133,597	Ditto	July	40	April	530	18	512
		District Total ...	794,428	January	December	368	January and April	3,273	75	3,198
Midnapore	42	Midnapore ... T.	33,560	May	Ditto	33	July	1	1	.....
	43	Ghattal	12,048	January	April	4	January	1	1	.....
	44	Chundrakona	12,257	Ditto	October	44	January to March and July to September.	1	1	.....
	45	Ranjibanpore	10,909	Ditto	September	7	January, February, April, June, August and September.	1	1	.....
	46	Midnapore ... R. C.	128,540	Ditto	December	61	May and July	1,340	26	1,314
	47	Binsore	90,704	Ditto	Ditto	83	May and June	772	20	752
	48	Danton	128,447	Ditto	Ditto	298	January, March, April, June to August, November and December.	620	06	584
	49	Dobra	70,120	Ditto	Ditto	29	April	770	11	768
	50	Garbheta	135,786	Ditto	November	62	March and July	1,008	21	987
	51	Gopinilubpore	139,928	March	December	72	July and December	1,272	11	1,261
	52	Jhargraui	59,782	May	May	7	May	607	2	605
	53	Keshpur	95,609	January	December	89	January, July and August.	905	24	881
	54	Narainghar	129,109	February	Ditto	234	March to May, July, August, November and December.	1,017	106	911
	55	Salboni	53,617	November	Ditto	21	November and December.	402	5	487
	56	Sabong	201,714	January	Ditto	250	January, March to May, July, November and December.	745	72	678
	57	Ghattal	71,455	Ditto	Ditto	14	Slight	339	5	334
	58	Chundrakona	64,805	Ditto	August	40	January, February, July and August.	276	16	260
	59	Daspur	115,269	Ditto	December	44	Slight	406	25	381
	60	Tamluk	80,049	Ditto	Ditto	174	January to May, September, October and December.	271	33	238
	61	Maslandpur	80,569	Ditto	Ditto	164	January, February, April, May, September, November and December.	252	64	188
	62	Nandigram	121,895	Ditto	Ditto	311	January to May, July, November and December.	274	43	231

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortuary registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Midnapore— <i>concluded.</i>	63	Panchkura	142,081	January 1887 ...	December 1887...	192	January to May and December.	648	67	581
	64	Sutuhatta	54,624	Ditto ...	Ditto ...	150	January to March and August to December.	247	20	227
	65	Contai	130,554	Ditto ...	Ditto ...	413	January to March, July, November and December.	740	116	624
	66	Egra	63,417	Ditto ...	Ditto ...	140	January to July, November and December.	376	39	337
	67	Pataspur	87,324	Ditto ...	Ditto ...	199	February, March, July, August, November and December.	456	47	409
	68	Rachunathpur	62,124	Ditto ...	Ditto ...	200	January, June to August, November and December.	395	50	345
	69	Bhagwanpur	96,451	Ditto ...	Ditto ...	431	January to May, August, September, November and December.	382	91	291
	70	Khajri	42,126	Ditto ...	Ditto ...	143	January, February and October to December.	135	28	107
		District Total ...	2,515,565	January ...	December ...	3,917	January to May, July, August, November and December.	14,768	1,012	13,746
	Hughli	71	Hughli T.	38,718	January ...	December ...	82	January to May, August, October and December.	102	32	70
72		Jahanabad	10,567	July ...	July ...	2	July	17	1	16
73		Balagarh R. C.	48,218	January ...	December ...	35	January and December	150	13	146
74		Poba	46,173	Ditto ...	September ...	25	January and April	158	8	150
75		Hughli	16,458	Ditto ...	December ...	77	January, March, April and December.	77	14	63
76		Dhaniakhali	93,537	Ditto ...	November ...	62	January, February and April.	386	19	367
77		Pandua	66,113	Ditto ...	December ...	47	January to April and December.	186	40	146
78		Jahanabad	88,906	Ditto ...	Ditto ...	28	April	225	19	206
79		Khunakul	133,300	Ditto ...	Ditto ...	40	November	226	27	199
80		Goghat	111,121	Ditto ...	August ...	50	January, April and July	272	15	257
	District Total ...	663,050	January ...	December ..	448	January, April and December.	1,808	188	1,620	
Serampore	81	Serampore T.	20,496	January ...	December ...	142	January to April and July to November.	7	7	.....
	82	Soidobatty	14,718	April ...	Ditto ...	10	April, May, July and December.	11	4	7
	83	Utterpara	5,510	January ...	November ...	10	January, March, April, October and November.	1	1	...
	84	Serampore R. C.	21,620	Ditto ...	October ...	13	February, March and September.	11	4	7
	85	Singoor	50,184	Ditto ...	November ...	81	January to May and September.	175	21	154
	86	Haripal	84,933	Ditto ...	Ditto ...	121	January, February and April.	355	37	318
	87	Chanditola	84,387	Ditto ...	Ditto ...	73	January and November.	192	25	167
	88	Krishnagore	55,107	Ditto ...	December ...	35	January, February, April and December.	172	11	161
	District Total ...	351,955	January ...	December ...	485	January, February, April and November.	924	110	814	
Howrah	89	Howrah T.	90,813	January ...	December ...	205	January to May and July to December.	1	1	.....
	90	Bali	14,815	Ditto ...	Ditto ...	56	January to May, September and October.	9	5	4
	91	Domjor B. C.	128,477	Ditto ..	Ditto ...	226	January, March, April, August, September, November and December.	205	67	138
	92	Jagatballabpur ..	77,539	Ditto ...	Ditto ...	138	January to March and December.	167	44	123
	93	Uinbaria	81,345	Ditto ...	Ditto ...	98	January, February, October and December.	363	36	327
	94	Amta	109,068	Ditto ...	Ditto ...	105	January and December	216	28	188
	95	Bugnan	63,563	Ditto ...	Ditto ...	140	January to April, August and December.	219	39	180
	96	Shampur	68,861	Ditto ...	Ditto ...	186	January to May, November and December.	316	53	258
		District Total ...	635,381	January ...	December ...	1,244	January to May, November and December.	1,496	278	1,218
	24-Pergunnahs	97	Suburbs of Calcutta T.	251,439	January ...	December ...	2,090	January to December	98	58	40
98		South Suburban	51,658	Ditto ...	Ditto ...	141	January to May, August and October to December.	46	37	9
99		Baranagar	29,982	Ditto ...	Ditto ...	107	February to May and July to December.	15	12	3

*Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency
during the year 1887—continued.*

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DISTRICTS.	Number of circles of mortuary registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
24-Perennials—concluded.	100	Rajpore ... Town	10,576	January 1887	December 1887	13	January, March, June, August to October and December.	8	6	2
	101	Agarpara ... "	22,739	Ditto	Ditto	47	January, March, April and August to October.	18	12	6
	102	Nowabgunge ... "	18,018	Ditto	Ditto	38	January, April, May, July to October and December.	11	11	.....
	103	Nalhati ... "	21,533	Ditto	Ditto	23	January to May and October.	27	4	23
	104	Basirhat ... "	20,450	Ditto	Ditto	27	January to April	19	11	8
	105	Badura ... "	19,135	Ditto	August	17	January, June and July	18	8	10
	106	Talheunge ... Rural	47,793	Ditto	December	42	January to March	143	18	135
	107	Atehepur ... "	62,536	Ditto	Ditto	40	January and February	178	25	153
	108	Vishupur ... "	71,717	Ditto	Ditto	177	January to March and December	250	30	220
	109	Sonarpur ... "	31,858	Ditto	Ditto	69	January to March, November and December.	102	24	138
	110	Bhangor ... "	78,852	Ditto	Ditto	239	January to April, September, November and December.	317	64	253
	111	Barripur ... "	75,830	Ditto	Ditto	114	January to May, August and December.	352	20	323
	112	Jumakar ... "	76,140	Ditto	Ditto	267	January to April and December.	228	50	178
	113	Canning ... "	47,518	Ditto	Ditto	413	January to May, November and December.	240	44	196
	114	Dum-Dum ... "	31,578	Ditto	Ditto	71	January to May, July, October and December.	76	18	57
	115	Baranepore ... "	21,660	February	October	26	February to April.	63	10	53
	116	Nalhati ... "	55,429	January	December	61	January, March, October and November.	183	12	171
	117	Baraset ... "	73,131	Ditto	June	52	March	282	21	261
	118	Deganga ... "	53,516	Ditto	December	130	January, March and December.	154	14	140
	119	Habara ... "	75,429	Ditto	Ditto	138	January to May	252	23	229
	120	Basirhat ... "	55,887	Ditto	Ditto	142	January, March and April.	165	34	131
	121	Hossainabad ... "	67,227	Ditto	Ditto	331	January to May, September and December.	189	43	146
	122	Badura ... "	104,608	Ditto	July	51	January	106	29	167
	123	Haroa ... "	49,292	Ditto	December	234	January to May, and October to December.	222	39	183
	124	Diamond Harbour ... "	52,828	Ditto	Ditto	200	January to April, November and December.	292	32	230
	125	Kalpi ... "	90,319	Ditto	Ditto	444	January to May, November and December.	427	67	360
	126	Dehipur ... "	43,455	Ditto	Ditto	109	January to June, November and December.	259	24	235
	127	Bankipur ... "	107,275	Ditto	Ditto	585	January to May and December.	382	27	355
	128	Mathurapur ... "	50,453	Ditto	Ditto	227	January to March, May, November and December.	239	20	219
		District Total ...	1,869,859	January	December	6,665	January to May, and October to December.	5,480	856	4,624
Sudden	129	Kishnaghur ... Town	27,477	January	December	20	January	1	1	.....
	130	Nohadwip ... "	14,105	Ditto	November	6	Ditto	1	1	.....
	131	Ranaghat ... "	8,583	April	April	4	April	1	1	.....
	132	Santipore ... "	29,687	January	December	49	January, February, November and December.	1	1	.....
	133	Kushtia ... "	9,717	April	June	9	April to June	1	1	.....
	134	Mohorapore ... "	5,731	.....	.....	.....	.....	1	.....	1
	135	Kishnaghur ... Rural	77,887	January	December	149	January, April and December.	170	30	140
	136	Hanskhali ... "	45,340	Ditto	June	65	January	94	31	63
	137	Kishenganj ... "	32,701	Ditto	November	58	January and February	48	24	24
	138	Chapra ... "	63,509	Ditto	Ditto	208	January, February and April.	109	32	77
	139	Nakshipara ... "	59,762	Ditto	December	64	January to March	128	15	113
	140	Kaliganj ... "	54,192	Ditto	April	12	Slight	100	11	89
	141	Ranaghat ... "	75,733	Ditto	December	78	January, February, April and May.	190	22	177
	142	Santipore ... "	24,777	Ditto	Ditto	27	January and December	57	8	49
	143	Chugda ... "	64,020	Ditto	Ditto	64	January, May and December.	161	18	143
	144	Haringhatta ... "	38,806	Ditto	April	73	January	92	9	83
	145	Kushtia ... "	17,726	March	May	20	April and May	22	6	16
	146	Kumarkhally ... "	98,247	January	December	176	April, May, July and August.	246	64	182
	147	Doulatpur ... "	74,178	Ditto	May	26	January	124	10	114
	148	Nanpara ... "	136,713	Ditto	October	340	March to May	220	59	161
	149	Bhaluka ... "	41,929	March	July	255	April to June	111	52	59
	150	Bhadulia ... "	68,184	February	October	307	April to June, August and October.	137	62	75
	151	Chudanga ... "	21,618	January	December	11	January, August and November.	37	4	33
	152	Alamdanga ... "	89,947	Ditto	Ditto	137	January, February and June to September.	150	20	130
	153	Damurhuda ... "	63,014	Ditto	Ditto	141	January, November and December.	113	38	75
	154	Kalupol ... "	39,396	Ditto	Ditto	83	January to March, November and December.	75	18	57

*Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency
during the year 1887—continued.*

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DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Nudda—concluded.	155	Jibunnagar ... Rural	40,120	January 1887 ...	December 1887...	66	January, November and December.	77	9	68
	156	Meherpore ... "	65,954	Ditto ...	Ditto ...	91	January, April, November and December.	112	18	94
	157	Tchatta ... "	89,160	Ditto ...	November ...	83	January, April and May	140	26	114
	158	Karimpur ... "	102,754	Ditto ...	May ...	40	January ...	201	18	183
	159	Gangni ... "	74,856	Ditto ...	August ...	15	Ditto ...	142	7	135
		District Total ...	1,655,721	January ...	December ...	2,674	January, February, April and May.	3,071	616	2,455
Jessore	160	Jessore... Town	8,405	March ...	December ...	5	March, April and December.	11	1	10
	161	Jessore or Kot-Rural	158,850	January ...	Ditto ...	261	January to May and December.	414	55	359
	162	Bachorpara ... "	63,902	Ditto ...	June ...	370	January to June ...	190	40	150
	163	Monirampur ... "	155,611	Ditto ...	December ...	131	January, March and April.	348	37	311
	164	Gadkhalli ... "	67,420	Ditto ...	Ditto ...	63	January and December	147	32	115
	165	Kulgaonj ... "	89,202	Ditto ...	May ...	87	January ...	231	23	208
	166	Keshulpore ... "	85,450	Ditto ...	October ...	106	January and March to May.	152	33	119
	167	Jhenida ... "	102,627	Ditto ...	April ...	21	February ...	206	5	201
	168	Kotchandpur... "	44,038	Ditto ...	March ...	52	January and February...	93	9	84
	169	Salkopa ... "	138,306	Ditto ...	November ...	75	April and May ...	315	14	301
	170	Harnakundo... "	41,805	Ditto ...	Ditto ...	60	April to September ...	120	12	108
	171	Magura ... "	150,162	Ditto ...	December ...	215	January and March to May.	448	35	413
	172	Salikha ... "	50,464	Ditto ...	Ditto ...	176	January, March to June and December.	132	31	101
	173	Muhamadpur... "	83,677	Ditto ...	November ...	45	January ...	297	14	283
	174	Narail ... "	161,303	Ditto ...	December ...	558	January to May and December.	359	103	256
	175	Kaha ... "	72,947	Ditto ...	Ditto ...	207	January, March, April, November and December.	146	65	81
	176	Lohagarra ... "	103,663	Ditto ...	Ditto ...	325	January, March to May and December.	267	67	200
	177	Bongong ... "	59,668	Ditto ...	April ...	30	January, March and April.	130	10	129
	178	Gaighatta ... "	50,223	Ditto ...	January ...	17	January ...	112	5	107
	179	Ganrapota ... "	61,032	February ...	June ...	19	March ...	145	7	138
	180	Moheshpur ... "	112,137	January ...	December ...	189	January to March ...	216	95	191
	181	Sarsua ... "	79,046	Ditto ...	April ...	29	January and April ...	124	7	117
		District Total ...	1,939,375	January ...	December ...	3,047	January, March to May and December.	4,732	630	4,102
Murshedabad	182	Berhampore ... Town	23,000	... ..	October ...	5	Slight ...	1	1	...
	183	Kandi ... "	10,000	... ..	February ...	7	January and February...	1	1	...
	184	City Murshedabad.	30,271	Ditto ...	August ...	24	March and May ...	1	1	...
	185	Jangipur ... "	10,187	March ...	December ...	5	March, May, July and December.	1	1	...
	186	Barwan ... Rural	67,912	January ...	January ...	15	January ...	157	7	150
	187	Jelmachi ... "	108,508	Ditto ...	May ...	7	Slight ...	213	3	210
	188	Daulabazar ... "	39,568	Ditto ...	April ...	23	January ...	116	4	111
	189	Singur ... "	8,345	March ...	March ...	1	March ...	50	1	49
	190	Goudipur ... "	12,633	January ...	November ...	3	January ...	46	2	44
	191	Gaos ... "	78,423	Ditto ...	May ...	84	January and April ...	229	23	206
	192	Hariharpara ... "	57,135	Ditto ...	Ditto ...	77	January, April and May	123	18	105
	193	Sowda ... "	47,559	Ditto ...	January ...	21	January ...	32	8	24
	194	Kandi ... "	79,659	Ditto ...	March ...	23	Ditto ...	302	6	296
	195	Gokarn ... "	42,446	Ditto ...	April ...	82	January to April ...	109	10	99
	196	Bharatpur ... "	108,025	Ditto ...	October ...	80	January to March ...	231	10	221
	197	Khargaoon ... "	54,018	Ditto ...	August ...	146	January to March and August.	176	19	157
	198	Assanpur ... "	11,177	June ...	July ...	3	June ...	122	5	117
	199	Bhugwangola ... "	57,239	January ...	August ...	111	February, April and May.	261	16	245
	200	Kalanganj ... "	37,206	Ditto ...	April ...	107	January to April ...	197	14	183
	201	Shahabnagar ... "	9,523	April	April	1	April	170	.....	170
	202	Manullabazar ... "	1,979	January ...	Ditto ...	45	January, March and April.	69	1	68
	203	Sugardighi ... "	27,859	January ...	August ...	4	Slight ...	145	1	144
	204	Raghunathganj ... "	57,269	August ...	August ...	79	January, February, April and May.	229	9	220
	205	Dewanserai ... "	55,036	January ...	May ...	4	March to June ...	245	112	133
	206	Shamsiorgang ... "	69,536	January ...	June ...	421	April and June ...	184	17	167
	207	Suti ... "	66,656	February ...	Ditto ...	73	February and March ...	165	5	160
	208	Mirzapur ... "	45,496	February ...	Ditto ...	73	February and March ...	165	5	160
		District Total ...	1,226,790	January ...	December ...	1,511	January to May ...	3,771	311	3,460
Khulna	209	Khulna ... Town	6,178	January ...	September ...	20	January to May and July to September.	13	10	3
	210	Satkhira ... "	8,738	Ditto ...	May ...	6	January, February and May.	10	6	4
	211	Khulna ... Rural	121,212	Ditto ...	December ...	292	January, February, April, May, November and December.	210	59	151
	212	Dumuria ... "	100,020	Ditto ...	Ditto ...	208	January to April, June and July.	294	64	210
	213	Baitaghata ... "	37,501	Ditto ...	October ...	227	January to April and July.	129	80	49

*Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency
during the year 1887—continued.*

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Khulna—concluded.	214	Paikgacha ... Rural	70,478	January 1887 ...	December ...	229	January, March to July, September, November and December.	240	31 209
	215	Bagirhat ... "	137,818	Ditto ...	Ditto ...	437	January to May and December.	347	87 260
	216	Mollahat ... "	50,478	Ditto ...	Ditto ...	80	January and April ...	121	31 90
	217	Rampal ... "	40,827	Ditto ...	Ditto ...	177	January to April ...	178	37 141
	218	Moreliganj ... "	82,670	Ditto ...	September ...	171	January to June ...	203	60 147
	219	Satkhira ... "	87,876	Ditto ...	May ...	43	January, March and April.		
	220	Kalarua ... "	81,398	Ditto ...	December ...	38	January and April ...	193	7 186
	221	Mingoora ... "	48,212	Ditto ...	May ...	64	January, February and April.	150	11 139
	222	Assasuni ... "	62,412	Ditto ...	December ...	109	January, March to May, November and December.	122	11 111
	223	Kaliganj ... "	146,130	Ditto ...	Ditto ...	169	January, April, November and December.	431	48 383
		District Total ...	1,079,944	January ...	December ...	2,270	January to May and December.	2,890	601 2,289
Dinajpur	224	Dinajpur ... Town	12,560	January ...	January ...	3	January ...	1	1
	225	Dinajpur or Rajarampore ... Rural	100,826	Ditto ...	August ...	112	February and April ...	731	25 706
	226	Birganj ... "	139,891	Ditto ...	May ...	257	April and May ...	441	20 421
	227	Thakurgaon ... "	220,397	Ditto ...	July ...	95	Ditto ...	331	20 311
	228	Ranisankail ... "	75,102	Ditto ...	January ...	8	January ...	195	1 104
	229	Pirganj ... "	93,880	Ditto ...	May ...	7	Very slight ...	352	1 351
	230	Hematabad ... "	85,287	April ...	June ...	8	Ditto ...	329	5 324
	231	Nawabganj ... "	61,637	January ...	January ...	23	Ditto ...	468	1 467
	232	Kaliganj ... "	94,882	March ...	June ...	20	April ...	482	5 477
	233	Bansihari ... "	61,877	April ...	May ...	20	May ...	630	7 613
	234	Patnaitolia ... "	69,238	August ...	August ...	3	Slight ...	613	1 612
	235	Mahadebpur ... "	67,205	March ...	April ...	10	April ...	430	3 427
	236	Forsha ... "	48,580	April ...	Ditto ...	15	Ditto ...	305	4 301
	237	Patgram ... "	70,661	Ditto ...	November ...	11	Ditto ...	684	2 682
	238	Gunkarmpur ... "	74,401	.....	.....	.....	.....	443	..... 443
	239	Chintaman ... "	52,058	January ...	July ...	17	January and April ...	381	6 375
	240	Parbatipur ... "	66,708	March ...	December ...	56	April, September, November and December.	215	9 206
		District Total ...	1,514,346	January ...	December ...	640	April and May ...	6,021	111 6,810
Rajshahye	241	Beaulah ... Town	10,791	February ...	December ...	15	February, May, July and September.	47	11 36
	242	Beaulah ... Rural	81,096	Ditto ...	May ...	15	May ...	422	5 417
	243	Tanore ... "	86,009	March ...	Dec. ...	21	Ditto ...	395	5 390
	244	Godagari ... "	43,799	May ...	June ...	40	May and June ...	332	9 323
	245	Putia ... "	121,238	March ...	April ...	6	Very slight ...	295	5 290
	246	Charghat ... "	124,160	January ...	December ...	49	January and November ...	307	7 300
	247	Baglmara ... "	121,561	Ditto ...	June ...	41	January and February ...	461	7 454
	248	Natore ... "	153,062	Ditto ...	November ...	54	April ...	405	18 387
	249	Singra ... "	112,807	Ditto ...	December ...	70	January and May ...	578	20 558
	250	Burigram ... "	121,554	Ditto ...	May ...	48	January ...	358	12 346
	251	Islipur ... "	84,962	Ditto ...	April ...	22	Ditto ...	243	5 238
	252	Naugaoon ... "	85,840	Ditto ...	January ...	11	Ditto ...	316	7 309
	253	Manda ... "	103,308	Ditto ...	May ...	52	January and April ...	625	12 613
	254	Panchpur ... "	79,431	Ditto ...	Ditto ...	45	January ...	391	18 373
		District Total ...	1,338,638	January ...	December ...	489	January ...	5,206	139 5,067
Munzpur	255	Rangpur ... Town	13,320	January ...	May ...	34	April ...	1	1
	256	Murkani ... Rural	116,210	Ditto ...	Ditto ...	177	January, April and May ...	728	41 687
	257	Kaliganj ... "	165,607	April ...	August ...	335	April to July ...	386	33 353
	258	Nisbotganj ... "	124,507	March ...	September ...	238	April and May ...	327	30 297
	259	Kumarkanj ... "	88,619	January ...	November ...	210	April, May and November.	139	24 115
	260	Mithapukhar ... "	99,053	April ...	April ...	14	April ...	461	3 458
	261	Pirganj ... "	69,008	January ...	May ...	30	Ditto ...	394	8 386
	262	Dumla ... "	138,762	March ...	July ...	440	April to June ...	59	13 41
	263	Jaldhaka ... "	163,672	February ...	November ...	111	April and May ...	144	19 125
	264	Darwani ... "	143,390	January ...	June ...	322	Ditto ...	145	22 163
	265	Barabari ... "	142,612	Ditto ...	August ...	175	April to June ...	742	45 696
	266	Nageshwari ... "	177,229	Ditto ...	July ...	462	January, February, April and May.	514	55 459
	267	Ulupur ... "	215,213	Ditto ...	October ...	883	January, February and April to June.	1,006	68 1,028
	268	Govindganj ... "	180,027	Ditto ...	December ...	64	January ...	897	10 887
	269	Bhowaniganj ... "	67,803	Ditto ...	April ...	37	Ditto ...	80	10 61
	270	Satullapur ... "	112,543	Ditto ...	October ...	270	January, April and May ...	349	50 299
	271	Sundarganj ... "	61,469	Ditto ...	June ...	173	Ditto ...	197	30 167
		District Total ...	2,097,964	January ...	December ...	3,082	January and April to June.	6,737	477 6,260
Bogra	272	Bogra ... Town	6,179	March ...	May ...	2	March and May ...	21	3 18
	273	Bogra ... Rural	216,750	January ...	December ...	33	January ...	979	12 967
	274	Sherrur ... "	47,463	March ...	March ...	1	Very slight ...	284	1 283
	275	Sharakandi ... "	103,228	January ...	January ...	13	January ...	433	5 428
	276	Khetlal ... "	40,023	.....	.....	.....	.....	309	..... 309
	277	Sibganj ... "	59,080	.....	.....	.....	.....	446	..... 446
	278	Adamdighi ... "	94,534	January ...	May ...	21	Slight ...	617	9 608
	279	Panchbibi ... "	66,724	.....	.....	.....	.....	559	..... 559
	280	Nawabganj ... "	39,374	April ...	April ...	4	April ...	327	1 326
	281	Dhunat ... "	61,003	May ...	May ...	20	May ...	254	4 250
		District Total ...	734,358	January ...	December ...	94	Slight ...	4,329	35 4,194

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Pubna	282	Pubna ... Town	15,267	January 1887	November	8	January and November	15	3	12
	283	Serajganj ... "	21,037	March	December	19	May	18	10	8
	284	Pubna ... Rural	174,381	January	Ditto	23	Slight	597	13	584
	285	Dulua ... "	186,563	Ditto	Ditto	111	April and December	603	26	477
	286	Chatmohar ... "	138,497	Ditto	Ditto	38	December	435	18	417
	287	Mathura ... "	102,486	March	Ditto	223	April, May and December	276	58	218
	288	Serajganj ... "	198,148	January	June	100	April and May	485	17	468
	289	Shazadpur ... "	216,494	Ditto	December	451	March to May	547	60	487
	290	Ulapara ... "	171,711	Ditto	July	106	April and May	550	4	546
	291	Raiganj ... "	92,374	Ditto	November	12	April	528	6	522
		District Total	1,311,728	January	December	1,001	April, May and December	3,954	215	3,739
Darjiling	292	Darjiling ... Town	7,976	June	October	7	Slight	19	5	19
	293	Darjiling ... Rural	45,300	December	December	1	Ditto	32	1	31
	294	Kalimpong ... "	12,683	May	September	3	Ditto	84	2	82
	295	Kurseong ... "	26,937	January	November	5	Ditto	737	3	734
	296	Phansidewa ... "	63,241	January	November	5	Ditto	737	3	734
		District Total	156,137	January	December	16	Slight	901	11	890
Jalpaiguri	297	Jalpaiguri ... Town	7,947	March	September	10	March, May, June and September	1	1	...
	298	Jalpaiguri ... Rural	67,471	February	June	144	February to June	41	12	29
	299	Siliguri ... "	80,178	January	May	16	May	280	6	274
	300	Boda ... "	178,643	March	September	273	March to May	484	24	460
	301	Patarnam ... "	64,636	April	Ditto	78	April, May and July	28	15	13
	302	Maynaguri ... "	69,451	January	July	192	March to July	36	23	13
	303	Karantia ... "	32,453	June	November	51	August	81	6	75
	304	Alipur ... "	32,086	April	June	219	April to June	45	15	30
	305	Sadbari ... "	51,697	March	July	272	March to July	64	29	35
			District Total	581,502	January	November	1,255	March to July	1,060	135	92
Dacca	306	Dacca ... Town	80,161	January	December	109	January and April	164	71	9
	307	Narainganj ... "	12,561	Ditto	Ditto	104	January to April, August, November and December	25	15	1
	308	Lalbagh ... Rural	164,287	Ditto	Ditto	298	January, February and April	516	68	44
	309	Kapasia ... "	119,515	Ditto	Ditto	168	January, April and May	506	44	46
	310	Sadbari ... "	174,831	Ditto	Ditto	427	January to May	688	80	60
	311	Nawalganj ... "	160,235	Ditto	Ditto	590	January, February, April and May	300	92	21
	312	Narainganj ... "	91,199	Ditto	Ditto	153	January, April, May and December	685	42	6
	313	Raipura ... "	209,798	Ditto	September	247	January to May	544	54	4
	314	Rupganj ... "	24,000	October	November	362	Ditto	652	218	4
	315	Moonsilganj ... "	24,000	October	December	931	January to May and December	441	173	2
		District Total	2,116,350	January	December	5,800	January to May	5,771	1,281	4
Faridpur	316	Srinagar ... "	2,000	Ditto	Ditto	1,471	January and February	235	106	1
	317	Manikganj ... "	184,106	Ditto	Ditto	429	January, April, May and December	417	87	3
	318	Jafferganj ... "	143,012	Ditto	Ditto	335	January, April, May and December	359	68	2
	319	Harirampur ... "	100,009	Ditto	November	179	January and March to May	239	168	...
		District Total	2,116,350	January	December	5,800	January to May	5,771	1,281	4
	320	Faridpore ... Town	10,263	January	December	6	January, May, October and December	7	2	...
	321	Faridpore ... Rural	81,288	Ditto	Ditto	111	January and March to May	201	17	...
	322	Bhushna ... "	107,415	Ditto	August	121	January, February and May	290	30	...
	323	Awanpur ... "	100,257	Ditto	June	86	January, April and May	457	24	...
	324	Maksaulpur ... "	166,653	Ditto	December	792	January to May	482	122	...
Backerganj	325	Bhanga ... "	164,589	Ditto	Ditto	426	January, February, April, May and December	316	68	...
	326	Madaripur ... "	165,917	Ditto	Ditto	644	January to June	305	75	...
	327	Palang ... "	256,250	Ditto	Ditto	1,213	January to May	478	102	...
	328	Gopalganj ... "	85,341	Ditto	November	351	Ditto	147	59	...
	329	Shibchar ... "	116,043	Ditto	July	450	January to June	191	53	...
	330	Kotahpara ... "	60,153	Ditto	December	344	January to May	217	75	...
	331	Goswondo ... "	106,050	Ditto	Ditto	495	January, April to June and December	317	76	...
	332	Pargasa ... "	150,366	April	July	184	April to June	548	43	...
	333	Belakandi ... "	65,089	Ditto	April	3	Very slight	271	1	...
			District Total	1,631,784	January	December	5,226	January to May	4,326	747
Backerganj	334	Barrisal ... Town	13,186	January	May	68	March to May	1	1	...
	335	Barrisal ... Rural	115,733	Ditto	December	854	January to May	296	67	...
	336	Jhalakati ... "	143,406	Ditto	Ditto	501	January to June	542	93	...
	337	Satkhira ... "	78,001	Ditto	Ditto	465	January and March to June	239	74	...
	338	Backerganj ... "	135,396	Ditto	Ditto	860	January to July	238	106	...
	339	Medhaganj ... "	145,711	Ditto	Ditto	532	January and March to May	581	137	...

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

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DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Bacherganj— conoid.	340	Gaurnaddi ... Rural	184,192	January 1887 ...	December 1887 ...	200	January to May ...	485	95	390
	341	Perozepur ... "	117,038	Ditto ...	Ditto ...	303	January to June ...	242	113	129
	342	Matbari ... "	96,082	Ditto ...	Ditto ...	633	January to June ...	187	48	89
	343	Surupkati ... "	160,284	Ditto ...	Ditto ...	349	January to May ...	448	108	340
	344	Bhandaria ... "	75,362	Ditto ...	Ditto ...	712	January to July and December.	68	52	16
	345	Patuakhali ... "	173,801	Ditto ...	Ditto ...	1,367	January to June ...	302	70	232
	346	Bauphal ... "	95,188	Ditto ...	August ...	284	January to May ...	146	34	148
	347	Galsakhali ... "	98,732	Ditto ...	December ...	750	January to June ...	309	87	222
	348	Gulachipa ... "	59,037	Ditto ...	August ...	446	Ditto ...	204	25	179
	349	Bhola ... "	123,169	Ditto ...	September ...	141	January and May ...	201	45	156
Dymensing	350	Barhamuddi ... "	89,061	Ditto ...	November ...	160	January to April ...	207	42	165
		District Total ...	1,900,889	January ...	December ...	8,885	January to June ...	4,336	1,251	3,085
	351	Jannalpur ... Town	16,091	April ...	October ...	3	Very slight	68	1	67
	352	Kishorkanj ... "	12,898	January ...	December ...	37	January to April, June and December.	49	26	23
	353	Atha or Tangail ... "	18,124	Ditto ...	August ...	12	January, April and May	25	6	19
	354	Nasrabad ... Rural	282,846	Ditto ...	November ...	314	January and April to June.	1,213	90	1,123
	355	Ishwarganj ... "	229,452	Ditto ...	December ...	209	January to April ...	1,190	71	1,119
	356	Gulfarganj ... "	117,759	Ditto ...	June ...	140	January to June ...	450	62	408
	357	Phulpur ... "	114,467	Ditto ...	December ...	68	April and May ...	790	56	734
	358	Netrakona ... "	471,658	Ditto ...	Ditto ...	805	January to May and December.	3,203	334	2,869
Chittagong	359	Durgapur ... "	116,457	Ditto ...	January ...	1	Very slight	911	1	913
	360	Jamalpur ... "	193,234	Ditto ...	December ...	120	February, May and June.	717	46	671
	361	Sherpur ... "	187,065	Ditto ...	August ...	42	January ...	1,016	17	999
	362	Dewanganj ... "	101,372	Ditto ...	December ...	102	January and May ...	267	27	240
	363	Kishorkanj ... "	122,705	Ditto ...	Ditto ...	142	March to June and December.	589	81	508
	364	Bazidpur ... "	209,258	Ditto ...	Ditto ...	673	January to April ...	667	144	523
	365	Nekh ... "	122,459	Ditto ...	July ...	216	January to May ...	496	64	432
	366	Attia ... "	442,119	Ditto ...	December ...	282	January, April and May	1,523	123	1,400
	367	Gopalpore ... "	217,736	Ditto ...	Ditto ...	550	January, February, April to June and December.	1,171	129	1,042
	368	Pingna ... "	76,262	Ditto ...	Ditto ...	165	January to June and December.	318	98	220
Chittagong		District Total ...	3,051,906	January ...	December ...	3,911	January to May and December.	14,470	1,310	13,160
	369	Chittagong ... Town	22,130	January ...	December ...	9	January and October ...	26	6	20
	370	Chittagong ... Rural	53,022	April ...	April ...	1	Very slight	26	1	25
	371	Kanjan ... "	144,380	July ...	December ...	14	Slight ...	124	4	120
	372	Museali ... "	76,709	January ...	Ditto ...	40	December ...	124	5	119
	373	Kumura ... "	58,611	February ...	April ...	82	February and March ...	110	7	103
	374	Banskhali ... "	101,758	March ...	December ...	145	May to July, November and December.	128	15	113
	375	Satkunye ... "	147,515	April ...	Ditto ...	77	October and December	195	12	183
	376	Fatkehari ... "	104,500	Ditto ...	Ditto ...	27	May and December ...	105	7	98
	377	Puteah ... "	180,419	August ...	Ditto ...	39	December ...	121	7	214
Noakhali	378	Hathazari ... "	81,830	February ...	February ...	1	Very slight	63	1	62
	379	Cox's Bazar ... "	62,817	April ...	December ...	274	April to June and December.	80	28	52
	380	Makal ... "	29,158	Ditto ...	Ditto ...	90	April to June and November.	27	6	21
	381	Chakariya ... "	38,825	Ditto ...	Ditto ...	533	April and June to December.	54	28	26
	382	Teknaf ... "	30,548	January ...	June ...	83	January and April to June.	107	12	95
		District Total ...	1,132,341	January ...	December ...	1,377	April, May, August and October to December.	1,390	139	1,251
	383	Sudharam ... Town	5,124	February ...	February ...	1	February ...	5	1	4
	384	Sudharam ... Rural	96,184	January ...	June ...	9	Very slight	426	7	419
	385	Lakshmipur ... "	113,321	Ditto ...	December ...	139	January to May ...	382	28	354
	386	Ramganj ... "	80,743	Ditto ...	July ...	64	January, February and April.	430	31	399
Tipperah	387	Begumganj ... "	128,933	Ditto ...	May ...	69	January and February	510	21	489
	388	Ramu ... "	41,731	December ...	December ...	1	Very slight	46	1	45
	389	Sandip ... "	72,407	February ...	Ditto ...	7	Ditto ...	82	7	75
	390	Hatia ... "	40,295	January ...	April ...	5	January ...	89	1	88
	391	Fenny ... "	132,697	Ditto ...	December ...	18	Slight ...	413	10	403
	392	Chhagalmaia ... "	109,278	Ditto ...	Ditto ...	175	January ...	246	32	213
		District Total ...	820,772	January ...	December ...	498	January and April ...	2,628	139	2,489
	393	Comillah ... Town	13,500	January ...	July ...	37	January, February, April and May	22	7	15
	394	Brahmanberia ... "	17,543	Ditto ...	November ...	16	January and March to May.	20	7	13
	395	Comillah ... Rural	128,879	Ditto ...	May ...	207	January to May ...	686	39	647
Tipperah	396	Chandina ... "	78,521	Ditto ...	Ditto ...	56	January to March ...	550	27	523
	397	Daudkandi ... "	143,222	Ditto ...	Ditto ...	672	January to May ...	619	228	491
	398	Moradnagar ... "	162,322	Ditto ...	Ditto ...	316	January to April ...	545	58	507
	399	Jagannathdighi ... "	103,218	Ditto ...	Ditto ...	29	January ...	638	15	623
	400	Lakshun ... "	86,472	Ditto ...	Ditto ...	61	January and April ...	654	27	627
	401	Brahmanberia ... "	223,751	Ditto ...	December ...	336	January to March and May.	597	51	546
	402	Kasba ... "	114,162	Ditto ...	Ditto ...	327	January to May ...	424	70	354
	403	Nabinagar ... "	176,971	Ditto ...	November ...	471	January to May ...	362	78	284
	404	Chandpur ... "	112,634	Ditto ...	May ...	222	Ditto ...	370	73	297
	405	Hajiganj ... "	172,347	Ditto ...	December ...	225	January to April ...	954	72	882
		District Total ...	1,519,338	January ...	December ...	2,075	January to May ...	6,481	732	5,749

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registrations as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Patna	406	Patna ... Town	160,237	January 1887	December 1887	753	January to December	340	187	15
	407	Behar ... "	48,971	May	Ditto	78	July to November	66	22	4
	408	Dumapore ... "	52,225	June	Ditto	58	August and December	9	8	4
	409	Barrih ... "	23,610	February	November	42	May to August and October.	4	4	.....
	410	Patna ... Rural	27,074	April	July	13	April and July	Not furnished.		
	411	Bankipur ... "	97,001	January	September	140	January and May to August.	360	66	29
	412	Bikram ... "	180,362	April	November	596	May to September	671	51	62
	413	Massaudhi ... "	120,613	May	September	268	May to August	016	51	56
	414	Dumapore ... "	15,387	Ditto	December	102	May to August and December.	114	21	9
	415	Maner ... "	98,510	April	September	151	May to September	276	33	24
	416	Barrih ... "	170,589	Ditto	October	216	May to August	471	37	58
	417	Mokamach ... "	93,824	February	Ditto	217	April to July	160	20	14
	418	Patna ... "	88,051	January	September	326	April to August	311	17	29
	419	Behar ... "	233,312	May	November	333	July and August	775	49	72
	420	Silno ... "	91,477	March	Ditto	706	June to August	341	72	20
	421	Atasarnai ... "	78,032	January	Ditto	534	May to August	425	205	22
	422	Hilsa ... "	170,075	April	October	759	April to August	920	254	66
		District Total	1,750,856	January	December	5,292	April to August	5,959	1,007	4,86
Gya	423	Gya ... Town	76,121	January	November	668	February to October	1	1	.....
	424	Dandnagar ... "	0,870	May	August	36	May, July and August	1	1	.....
	425	Gya ... Rural	215,392	March	October	1,303	April to September	668	134	53
	426	Shorghati ... "	162,819	April	Ditto	2,206	April to October	769	239	53
	427	Attri ... "	78,510	May	December	735	May to August and December.	302	54	31
	428	Tikari ... "	176,805	April	October	2,091	April to September	421	142	27
	429	Barachati ... "	96,211	Ditto	August	493	April to August	599	37	57
	430	Aurangabad ... "	245,429	March	November	3,869	April to September	837	362	47
	431	Dandnagar ... "	92,236	Ditto	Ditto	619	March to August	267	85	18
	432	Nabinagar ... "	98,046	April	Ditto	1,018	April to October	499	91	44
	433	Jehanabad ... "	274,754	January	December	1,872	May to September	635	194	44
	434	Arwal ... "	110,435	November	November	891	May to September	230	83	14
	435	Nawada ... "	391,713	March	Ditto	1,241	May to September	980	114	86
	436	Rajauli ... "	90,775	April	September	82	May, July and August	302	9	21
		District Total	2,124,682	January	December	17,119	March to September	6,531	1,546	4,91
Shahabad	437	Arrah ... Town	43,465	February	November	290	May to September	11	10	.....
	438	Buxar ... "	17,608	Ditto	October	80	February to August	1	1	.....
	439	Dumraon ... "	17,000	April	Ditto	295	April to August	1	1	.....
	440	Arrah ... Rural	1,000	February	November	1,305	April to October	507	96	4
	441	Belauti ... "	195,779	April	September	941	May to August	247	46	21
	442	Piru ... "	1,000	Ditto	November	832	April to October	535	40	41
	443	Buxar ... "	145,587	Ditto	Ditto	1,107	May to October	416	75	3
	444	Dumraon ... "	242,103	Ditto	December	1,853	April to September	479	219	2
	445	Sasaram ... "	155,760	March	October	2,031	April to September	653	105	5
	446	Khanghar ... "	104,647	Ditto	Ditto	1,073	March to October	564	109	4
	447	Dhanganui ... "	179,916	January	November	1,479	January, June to September and November.	594	83	5
	448	Deoria ... "	78,884	April	October	745	April to October	260	55	2
	449	Patna ... "	171,823	March	September	1,334	March to September	821	98	7
	450	Mohanin ... "	160,413	Ditto	November	694	March to October	584	60	5
		District Total	1,904,900	January	December	14,067	April to October	5,673	996	4,6
Mozufferpore	451	Mozufferpore... Town	42,742	January	November	52	March to July	1	1	.....
	452	Sitamarhi ... "	6,125	July	July	2	July	1	1	.....
	453	Hajipur ... "	25,695	March	November	26	April, May and July	1	1	.....
	454	Lalganj ... "	16,783	January	October	60	January, April and June to October.	1	1	.....
	455	Mozufferpore ... Rural	500,596	February	December	367	May, June and September.	1,087	44	1,0
	456	Baru ... "	288,957	January	Ditto	652	May to October	543	59	4
	457	Katua ... "	187,340	Ditto	Ditto	368	April to July, October and November.	232	51	1
	458	Sitamarhi ... "	463,137	April	November	1,864	April to August	614	125	4
	459	Purnea ... "	222,516	Ditto	October	1,428	May to September	212	91	1
	460	Sunhar ... "	146,110	Ditto	Ditto	588	May to October	150	74	1
	461	Hajipur ... "	244,530	January	Ditto	1,270	May to September	594	90	1
	462	Mahua ... "	310,444	Ditto	Ditto	369	May to October	652	39	1
	463	Lalganj ... "	127,079	Ditto	November	140	April to June, August and September.	516	10	1
		District Total	2,582,060	January	December	7,180	May to October	4,374	587	3,1
Dumhanga	464	Dumhanga ... Town	66,096	January	December	253	January, March to August and October to December.	1	1	.....
	465	Dumhanga ... Rural	337,423	Ditto	Ditto	873	May to September	879	57	1
	466	Rohara ... "	256,605	February	November	230	June to August	753	13	1
	467	Bahera ... "	309,875	January	December	179	July, September and December.	627	31	1
	468	Tajpur ... "	306,463	Ditto	November	167	May and June	463	20	1
	469	Dalsinghara ... "	279,504	Ditto	October	706	May to August	397	47	1

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Durbhanga—concluded.	470	Nagarbhati ... Rural	169,046	January 1887 ...	October 1887 ...	86	July to September ...	313	23
	471	Madhubani ... "	211,772	Ditto ...	December ...	349	May to August ...	650	27
	472	Khajauli ... "	151,540	April ...	October ...	1,133	April to October ...	529	84
	473	Bonpati ... "	273,742	Ditto ...	December ...	1,285	Ditto ...	705	81
	474	Phulparas ... "	270,451	January ...	Ditto ...	743	March to September ...	982	39
		District Total ...	2,633,447	January ...	December ...	5,904	May to September ...	6,359	890
	475	Chupra ... Town	53,249	March ...	October ...	89	June to October ...	14	14
	476	Sewan ... "	13,307	May ...	September ...	75	May to August ...	8	8
	477	Revilganj ... "	12,493	January ...	November ...	53	January and April to October ...	8	5
		District Total ...	2,280,582	January ...	December ...	7,804	May to September ...	1,678	810
Sarun ...	478	Chupra ... Rural	190,265	April ...	October ...	951	April to September ...	506	131
	479	Manjhi ... "	146,722	Ditto ...	December ...	748	June to October ...	233	62
	480	Masrak ... "	226,802	May ...	August ...	30	Slight ...	270	6
	481	Parra ... "	230,072	April ...	September ...	201	May to August ...	521	45
	482	Dighwara ... "	120,231	April ...	Ditto ...	199	April to August ...	178	34
	483	Sewan ... "	302,681	May ...	October ...	1,820	June to September ...	573	178
	484	Darauli ... "	222,618	April ...	November ...	1,173	May to September ...	652	90
	485	Rasulpur ... "	211,476	May ...	October ...	940	Ditto ...	390	67
	486	Gopalganj ... "	260,385	Ditto ...	November ...	725	May to October ...	469	56
	487	Barasganj ... "	284,681	April ...	October ...	830	Ditto ...	859	119
Chumpran ...		District Total ...	2,280,582	January ...	December ...	7,804	May to September ...	1,678	810
	488	Bettiah ... Town	21,263	April ...	August ...	125	May to August ...	1	1
	489	Bettiah ... Rural	349,072	March ...	October ...	2,403	March to September ...	1,684	152
	490	Bagaha ... "	140,900	April ...	August ...	1,411	April to August ...	655	98
	491	Laucia ... "	101,917	March ...	September ...	1,810	April to July and September ...	832	100
	492	Motihari ... "	176,748	April ...	October ...	1,136	April to September ...	802	68
	493	Govindganj ... "	165,062	Ditto ...	Ditto ...	1,226	Ditto ...	743	83
	494	Dihka ... "	353,092	Ditto ...	November ...	2,323	April to October ...	777	123
	495	Kasaria ... "	177,082	Ditto ...	September ...	653	May to September ...	1,052	61
	496	Adapur ... "	133,086	Ditto ...	Ditto ...	1,768	April to September ...	522	90
Monghyr ...	497	Madhuban ... "	105,086	May ...	August ...	8	Slight ...	615	3
		District Total ...	1,721,608	March ...	November ...	12,829	April to September ...	7,766	835
	498	Monghyr ... Town	57,520	March ...	November ...	122	April to November ...	76	39
	499	Jamulpore ... "	13,563	Ditto ...	September ...	19	March, April, July and September ...	12	3
	500	Shekhpura ... Rural	12,517	May ...	Ditto ...	132	May to September ...	1	1
	501	Monghyr ... "	81,736	Ditto ...	October ...	19	Slight ...	100	9
	502	Jamulpore ... "	6,261	.....	.....	.....	.....	.....	.....
	503	Gogri ... "	365,954	January ...	July ...	2,344	April to July ...	315	143
	504	Kharakpur ... "	143,079	March ...	November ...	439	May to October ...	325	47
	505	Sunajgarra ... "	168,263	May ...	August ...	130	May to August ...	288	34
Bhagulpore ...	506	Begu Serai ... "	379,794	January ...	October ...	658	January and April to August ...	508	71
	507	Tegra ... "	203,432	Ditto ...	November ...	833	May to August ...	248	48
	508	Shekhpura ... "	186,963	April ...	Ditto ...	1,321	April to August ...	357	141
	509	Shekandra ... "	122,389	May ...	September ...	318	June to August ...	138	18
	510	Jamui ... "	126,563	Ditto ...	August ...	327	May to August ...	510	52
	511	Chakai ... "	109,540	Ditto ...	July ...	148	May to July ...	901	32
		District Total ...	1,969,774	January ...	November ...	6,810	April to August ...	3,475	638
	512	Bhagulpore ... Town	57,463	February ...	December ...	150	April to August and October to December ...	61	34
	513	Bhagulpore ... Rural	100,379	May ...	October ...	66	May, June and September ...	319	49
	514	Kumarganj ... "	98,427	Ditto ...	November ...	207	May to August and October ...	204	14
Purneah ...	515	Kolgong ... "	102,237	February ...	Ditto ...	242	April to July ...	359	33
	516	Bilipur ... "	98,403	January ...	July ...	87	May and June ...	70	17
	517	Supul ... "	299,042	Ditto ...	August ...	934	March to June ...	317	59
	518	Pertabganj ... "	163,272	Ditto ...	July ...	1,690	March to June ...	186	96
	519	Bongong ... "	148,560	May ...	October ...	165	June, July, September and October ...	318	8
	520	Madhepur ... "	262,678	March ...	Ditto ...	414	May to September ...	172	40
	521	Kissanganj ... "	135,328	February ...	July ...	57	May ...	280	6
	522	Banka ... "	134,227	March ...	August ...	79	July and August ...	295	11
	523	Amarpore ... "	208,508	May ...	December ...	261	June to September ...	567	40
	524	Katuria ... "	77,644	March ...	Ditto ...	5	Very slight ...	95	2
Purneah ...		District Total ...	1,906,158	January ...	December ...	4,287	March to September ...	3,248	409
	525	Purneah ... Town	16,016	January ...	December ...	17	January, February and May ...	4	4
	526	Purneah ... "	138,704	Ditto ...	September ...	43	May ...	267	6
	527	Kasba Amur ... "	121,889	Ditto ...	June ...	179	April and May ...	364	16
	528	Dhandaia ... "	109,391	Ditto ...	October ...	112	April, May and October ...	168	8
	529	Gondwara ... "	123,945	Ditto ...	August ...	81	January and April ...	144	4
	530	Arrara ... "	200,013	Ditto ...	Ditto ...	200	January, April and May ...	334	21
	531	Mitlari ... "	94,115	Ditto ...	Ditto ...	170	April to August ...	304	31
	532	Kaniganj ... "	107,552	Ditto ...	November ...	469	April to August and October ...	128	14
	533	Kissanganj ... "	158,100	Ditto ...	May ...	26	January ...	279	5
Purneah ...	534	Bahadurganj ... "	196,142	April ...	April ...	17	Slight ...	371	1
	535	Kahaganj ... "	277,059	January ...	July ...	38	January ...	562	7
	536	Kadwa ... "	134,276	Ditto ...	June ...	142	January, April and May ...	309	21
	537	Balarampur ... "	116,031	Ditto ...	July ...	42	January ...	362	6
	538	Manihari ... "	54,450	April ...	November ...	51	April, May and November ...	132	11
		District Total ...	1,848,087	January ...	December ...	1,577	January and April to June ...	3,626	165

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	Affected by Cholera.	Not affected by Cholera.
Maldah	530	English Bazar Town	12,430	May 1887	July 1887	3	May	38	3	35
	540	Ditto ... Rural	72,015	January	Ditto	237	January to May	215	41	174
	541	Maldah ... "	50,494	Ditto	Ditto	26	March and April	333	5	328
	542	Gajol ... "	54,317	Ditto	May	26	January and April	583	9	577
	543	Raina ... "	80,024	Ditto	June	122	April to June	393	29	364
	544	Kharba ... "	103,051	February	Ditto	90	Ditto	541	20	521
	545	Gomastapur ... "	52,310	March	May	83	March to May	248	25	223
	546	Kallinachak ... "	115,892	January	November	69	January and June	230	18	262
	547	Shibganj ... "	102,102	April	May	31	April and May	241	15	236
	548	Nawabganj ... "	66,453	January	July	78	Ditto	235	13	222
		District Total ...	710,448	January	November	765	January and March to May.	3,110	178	2,932
Sonthal Pergunnahs	549	Deoghur ... Town	8,006	February	June	34	February to June	1	1	...
	550	Dumka ... Rural	363,186	May	August	43	Slight	2,909	16	2,893
	551	Rajmahal ... "	253,825	January	December	190	May and July	3,117	42	3,075
	552	Pakur ... "	204,019	March	Ditto	61	March	1,251	28	1,223
	553	Deoghur ... "	389,068	February	October	222	March, May and August	2,218	31	2,187
	554	Godda ... "	348,463	May	Ditto	77	Slight	1,758	10	1,748
		District Total ...	1,568,093	January	December	630	Slight	11,234	128	11,106
Cuttack	555	Cuttack ... Town	43,239	January	November	108	January and July to October.	128	42	86
	556	Kendrapara ... "	15,997	Ditto	July	26	January, April and July	64	16	48
	557	Jajpur ... "	11,233	Ditto	September	26	April and July to September.	83	18	65
	558	Cuttack ... Rural	155,335	Ditto	December	694	January and June to December.	364	123	241
	559	Banki ... "	50,900	April	October	505	May to October	195	51	142
	560	Salpur ... "	249,979	January	December	639	January and July to December.	780	170	604
	561	Jagatsingpur ... "	215,001	Ditto	Ditto	392	January and July to October.	1,282	143	1,139
	562	Tirtola ... "	183,677	Ditto	October	216	January, March to May, July and August.	1,098	56	1,042
	563	Kendrapara ... "	175,323	Ditto	December	436	January to April and July to September.	1,576	122	1,454
	564	Patamundi ... "	100,401	Ditto	August	48	February and March	720	23	697
Puri	565	Ani ... "	91,016	Ditto	July	571	January to June	573	126	447
	566	Jajpur ... "	239,503	Ditto	December	332	January, April, May, July, August, November and December.	763	89	666
	567	Dharamsala ... "	248,762	January	December	658	January, May to August, November and December.	1,540	168	1,381
		District Total ...	1,568,093	January	December	4,071	January to December	9,165	1,154	8,011
	568	Puri ... Town	11,711	February	December	416	February to August and October to December.	1	1	...
	569	Ditto ... Rural	197,349	January	Ditto	2,825	January to September, November and December.	1,317	469	848
	570	Pipli ... "	226,782	Ditto	Ditto	1,479	January, March to September, November and December.	1,581	345	1,236
	571	Cope ... "	116,167	Ditto	Ditto	294	March to May, July, August and October to December.	953	83	870
	572	Khurda ... "	269,478	Ditto	Ditto	2,569	January, March to September, November and December.	805	395	410
	573	Bhanpur ... "	43,927	Ditto	Ditto	1,085	January and March to December.	509	120	389
		District Total ...	883,487	January	December	8,668	January to December	5,166	1,413	3,763
Balasore	574	Balasore ... Town	20,203	March	December	121	March to August, November and December.	39	24	15
	575	Ditto ... Rural	87,420	January	Ditto	313	January, March to August, October and November.	581	109	472
	576	Soro ... "	107,508	Ditto	Ditto	502	March to July and December.	1,321	151	1,170
	577	Jellasore ... "	55,102	Ditto	Ditto	304	January, March to August and December.	425	67	358
	578	Balinpal ... "	88,228	Ditto	Ditto	720	January to August, November and December.	567	165	402
	579	Basta ... "	71,186	Ditto	Ditto	582	January to July, November and December.	475	98	377
	580	Bhadral ... "	169,972	Ditto	Ditto	858	January to December	1,340	206	1,134
	581	Basudevpur ... "	71,354	Ditto	Ditto	156	February to May and October to December.	477	50	427
	582	Dumungar ... "	132,321	Ditto	Ditto	563	January to September, November and December.	867	143	724
	583	Chandbali ... "	51,926	Ditto	Ditto	434	January to August, October and November.	340	103	237
		District Total ...	945,240	January	December	4,353	January to September, November and December.	6,432	1,116	5,316

Statement are fixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1887—concluded.

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DISTRICTS.	Number of circles of mortuary registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by cholera.	Not affected by cholera.
Hazaribagh	584	Hazaribagh ... Town	15,306	September 1887	September 1887	4	September...	11	1	10
	585	Ditto ... Rural	87,718	May	Ditto	16	Ditto	354	4	350
	586	Chatra ...	64,018	Ditto	June	4	Very slight	411	3	408
	587	Bagodhar ...	59,302	July	July	4	Ditto	327	1	326
	588	Simoria ...	37,029	June	June	19	June	335	1	324
	589	Kashmar ...	47,084	April	July	31	April and July	404	8	404
	590	Chotparan ...	70,437	May	June	2	Very slight	500	2	492
	591	Jagowar ...	53,503	May	August	18	August	444	2	442
	592	Barhi ...	52,054	April	Ditto	547	April to August	277	2	275
	593	Hunterganj ...	56,954	Ditto	June	28	May	507	61	446
	594	Ramghar ...	72,953	March	August	178	July and August	384	6	378
	595	Tandawa ...	55,780	July	September	26	July to September	350	11	339
	596	Gowan ...	53,375	May	August	19	March	449	7	449
	597	Pachamba ...	86,007	March	June	9	Slight	709	6	703
	598	Dumunhi ...	68,685	June	Ditto	5	Ditto	654	1	654
	599	Khurakdiha ...	150,545	June	Ditto	5	Ditto	1,052	2	1,051
	600	Kodarma ...	73,802	Ditto	Ditto	5	Ditto	516	2	514
	District Total	1,104,742	March	September	903	May to July	7,731	116	7,615	
Lohardugga	601	Ranchi ... Town	18,443	August	September	13	August	1	1	805
	602	Ditto ... Rural	122,152	Ditto	October	50	August and October	812	7	805
	603	Sil ...	68,353	.....	.....	.....	.....	353	.....	353
	604	Tamar ...	95,696	.....	.....	.....	.....	282	.....	282
	605	Lodhma or Kara	67,988	September	October	18	September	355	1	354
	606	Choua or Mandar.	50,230	August	September	31	August and September	240	3	237
	607	Torpa or Kuteo	104,140	July	.....	.....	.....	392	.....	392
	608	Balmat ...	61,253	July	September	82	July to September	670	13	657
	609	Bowya or Champura.	51,080	Ditto	July	3	Slight	473	1	472
	610	Korambi or Sassa.	89,078	Ditto	November	848	July to November	522	40	282
	611	Lohardugga ...	122,023	May	Ditto	2,407	May to October	627	100	527
	612	Palkot ...	108,719	August	September	49	August and September	199	7	192
	613	Riu or Kochadoga.	66,061	Ditto	November	107	August, October and November.	173	15	158
	614	Bassa ...	89,234	.....	.....	.....	.....	288	.....	288
	615	Daitonganj ...	64,202	March	October	1,396	March to October	562	105	457
	616	Garwah ...	76,809	May	November	1,328	May to November	567	134	229
	617	Ramkunda or Ranka.	61,300	March	October	464	March, April and June to October.	168	43	125
618	Chhattarpur ...	36,591	May	Ditto	294	May to October	252	28	224	
619	Patun ...	79,655	Ditto	Ditto	540	Ditto	454	62	392	
620	Barasara or Mohowada.	14,067	.....	.....	.....	.....	84	.....	84	
621	Hossainabad or Manjhar.	102,515	March	October	1,410	May to October	490	59	440	
622	Munkah ...	46,993	Ditto	September	235	March to May and July to September.	294	29	265	
	District Total	1,600,244	March	November	9,375	March and May to November.	7,797	652	7,145	
Singbhum	623	Chaubassa ... Town	6,006	May	May	3	May	1	1	.....
	624	Ditto ... Rural	205,652	June	November	7	Very slight	812	4	808
	625	Chakardharpur	76,408	May	October	13	May	340	2	338
	626	Ghatasila ...	105,700	March	July	16	Slight	1,144	0	1,138
	627	Khursowan ...	31,127	June	Ditto	9	June and July	188	2	186
	628	Serukila ...	77,062	May	August	108	May to August	608	17	591
		District Total	561,964	March	November	156	June	3,093	32	3,061
Manbhum	629	Purnia ... Town	9,304	December	December	1	December	1	1	.....
	630	Ditto ... Rural	177,487	May	May	1	Very slight	844	1	843
	631	Raghunathpur	108,698	July	December	22	December	451	3	448
	632	Jhaldia ...	67,133	.....	.....	.....	.....	298	.....	298
	633	Manbazar ...	68,015	March	April	69	March and April	435	15	420
	634	Para ...	59,740	February	December	20	March and May	152	9	143
	635	Baghmundi ...	33,384	.....	.....	.....	.....	177	.....	177
	636	Jajpore ...	24,258	May	May	3	May	119	1	118
	637	Ichanghar ...	64,242	February	September	11	Slight	285	3	282
	638	Barabhum ...	133,847	Ditto	April	22	Ditto	844	3	841
	639	Gourandi ...	45,703	May	July	2	Ditto	220	2	218
	640	Chas ...	89,173	March	August	5	Ditto	526	3	523
	641	Govindpur ...	39,673	Ditto	April	8	April	363	2	361
	642	Nirau ...	60,027	April	December	37	April and May	351	6	345
	643	Topchanchi ...	48,013	May	August	3	Slight	381	2	379
644	Toondi ...	18,417	Ditto	May	1	Ditto	344	1	343	
645	Jharia ...	39,854	.....	.....	.....	.....	363	.....	363	
	District Total	1,058,228	February	December	205	Slight	6,140	51	6,089	

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 10th March 1888.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

APPENDIX No. III.

SUMMARY OF SANITARY WORKS, IMPROVEMENTS, &c.,
CARRIED OUT IN TOWNS AND DISTRICTS, INCLUDING
PRIVATE CHARITIES.

DURING THE YEAR 1837.

IN THE TOWNS.				IN THE INTERIOR OF THE DISTRICT.			BY PRIVATE INDIVIDUALS.		
District.	Name of town.	Nature of work.	Cost.	In progress.	Cost.	District.	Nature of work.	Cost.	
Hyderabad.	Hydalgatty	Metalling of roads Purchase of land for a road and waterworks. Houses for conservancy officers	602 472 63	Construction of bridge; extension of a road	406	Howrah	The works of the Rajapore and Howrah drainage scheme were taken up by the Engineering Department. This scheme when completed will drain out a large quantity of water from large marshes and bheels, and will effect great sanitary result	Rs. Not stated.	
	Bhandraesar	One pucca culvert Metalling of a lane Road-side drains	24 74 755						
	Ketruing	Five culverts	112						
	Howrah	Expenditure on roads Improvements to market-sheds, the slaughter-houses and the maidan, and the construction of a portable railway Construction and improvements of roads, including culverts and bridges	66,515 34,695 1,557						
24-Pergunnahs	Suburbs of Calcutta,	Metalling of five roads and eight lanes; Improvements to drinking-water supply and construction of culverts Reinforcing bund tanks One tank	5,684 14,459 587 307	Nine roads and two lanes.	11,781	24-Pergunnahs	A bridge was built over the Jole Khal at the close of the year last following original works were in progress:- Deepening of the Kamarpooker khal Three culverts Metalling of 3½ miles of road Construction of two 18-inch pipe sluices. Construction of two bridges	3,988 220 8,000 1,320 14,679 624 2,300	
	Ranagaon South Suburban.	Metalling of eight roads Metalling of four roads Twenty-nine culverts	1,663 1,215 1,283	Construction of four roads and the wall of a running-ghat	909				
	Rajpore	Twenty-five roads	990	Thirteen roads, two lanes, and ten culverts	1,509				
	Barripore	Three culverts A cart for removing dead bodies of paupers Forty-two culverts Metalling of four roads Six culverts Municipal office building	77 39 1,600 1,763 209 4,162						
Khulna	Baraset	Four roads, some culverts, and two latrines. Twelve roads, two lanes, and one khall Filling up of ditches on roadsides One pucca road constructed Metalling of one road Three pipe culverts	3,420 1,514 259 130 627 62	Seven roads Three roads	3,035 2,925	Khulna	Repairs of village roads and bridges	3,000	
	Gobardanga								
	South Dum-dum.								
	Khulna Satkhura	Metalling of three roads One culvert	230 57	Four pucca roads and a bridge.	296	Khulna	Seven tanks were excavated, the two largest of which cost Rs. 525 and Rs. 500 respectively, and were paid for by Ishan Ch. Hani of Mobarakpoore and Kazi Nazaratulla of Shipbare A masjid was built by Haji Sahib, Sirdar of Assamui, at a cost of Rs. 1,000	250	

District	Taluk	Description of work	Area in acres	Cost in Rs.	Remarks	Total cost	Remarks	Total cost
Nuddea	Santipore	Three masonry wells	475	3,500	Pucca drains	3,500	... ..	3,500
		A tank and a ghat	3,995	1,083	One masonry well	1,083	... ..	486
		Earth work of Strand road	1,111	1,083	Two others	1,083	... ..	169
		Purchase of stock	64	228	Metalling of a road	228	... ..	940
Jessore	Kooshira	One pucca road	1,068	40	Metalling of a road	40	... ..	2,300
	Beerangore	Two culverts	44	355	Construction of a kutcha road	355	... ..	2,400
		Conservancy stock	161	112	Metalling of a road	112	... ..	1,400
	Nuddea	Three culverts	102	Not stated	Metalling of a road	Not stated	... ..	Not known.
Moorshedabad	Meherpore	One iron roller and extension of a road	703	...	Two urinals and a cut	...	... ..	...
	Comervey	Metalling of a road	115	...	Metalling of a road	...	... ..	...
	Jessore	One culvert	60	...	Two urinals and a cut	...	... ..	...
	Kotechandpore	Four latrines	70	...	Metalling of a road	...	... ..	...
Bengal		One pucca drain	107	...	Metalling of a road	...	... ..	...
		Six roads	113	...	Metalling of a road	...	... ..	...
		One culvert	85	...	Metalling of a road	...	... ..	...
	Be-nampore	Two pucca drains	227	...	Metalling of a road	...	... ..	...
Kandi		A bridge	112	...	Metalling of a road	...	... ..	...
		Four drain culverts	31	...	Metalling of a road	...	... ..	...
		Two latrines	225	...	Metalling of a road	...	... ..	...
		Some drains	40	...	Metalling of a road	...	... ..	...
City Moorshedabad		Five roads	218	...	Metalling of a road	...	... ..	...
		Some culverts	60	...	Metalling of a road	...	... ..	...
		Baloochar drains	1,645	...	Metalling of a road	...	... ..	...
		Three drains	125	...	Metalling of a road	...	... ..	...
Jungipore		One latrine, Rs. 8	16	...	Metalling of a road	...	... ..	...
		Six kutcha urinals, Rs. 3 and one light	10	...	Metalling of a road	...	... ..	...
		One road	16	...	Metalling of a road	...	... ..	...
		Construction of a godown	10	...	Metalling of a road	...	... ..	...
Dinagore		Two urinals	37	...	Metalling of a road	...	... ..	...
		Three bullock sheds	417	...	Metalling of a road	...	... ..	...
		One slaughter-house	108	...	Metalling of a road	...	... ..	...
		One dispensary work shed	87	...	Metalling of a road	...	... ..	...
Rajshahye		One cart shed	228	...	Metalling of a road	...	... ..	...
		Metalling of a road	725	...	Metalling of a road	...	... ..	...
		A bridge	60	...	Metalling of a road	...	... ..	...
		A drain	53	...	Metalling of a road	...	... ..	...
Rungpore		Re-excavation of a tank	1,326	...	Metalling of a road	...	... ..	...
		Extension of Mohamedan burial-ground	680	...	Metalling of a road	...	... ..	...
		Metalling of three roads	1,093	...	Metalling of a road	...	... ..	...
		A pucca drain	510	...	Metalling of a road	...	... ..	...
Bogra		A public latrine	213	...	Metalling of a road	...	... ..	...
		Fitting up of a privy	29	...	Metalling of a road	...	... ..	...
		Four kutcha roads	96	...	Metalling of a road	...	... ..	...
		Four culverts	212	...	Metalling of a road	...	... ..	...
Pubna		Two pucca culverts	139	...	Metalling of a road	...	... ..	...
		Two night-soil carts	500	...	Metalling of a road	...	... ..	...
		Filling up pits and clearing jungle	176	...	Metalling of a road	...	... ..	...
		A drain	14	...	Metalling of a road	...	... ..	...
Pubna		Two embankments and two temporary bridges	405	...	Metalling of a road	...	... ..	...
		Four wells	175	...	Metalling of a road	...	... ..	...
		Acquisition of land	1,001	...	Metalling of a road	...	... ..	...
		Metalling of a road	102	...	Metalling of a road	...	... ..	...
Pubna		A spar on a river bank	228	...	Metalling of a road	...	... ..	...
		A path road	6	...	Metalling of a road	...	... ..	...
		Three tanks were excavated	2,200	...	Metalling of a road	...	... ..	...
		A school building was erected	200	...	Metalling of a road	...	... ..	...

IN THE TOWNS				IN THE INTERIOR OF THE DISTRICT.			BY PRIVATE INDIVIDUALS.			
District.	Name of town.	Nature of work.			District.	Nature of work.	Cost.	Name of district.	Nature of work.	Cost.
		Completed.	Cost.	In progress.						
Pabna—contd.	Seranunge	Construction of seven roads, extension of two roads and metalling of two	887	Three culverts	635					
		A culvert	407	Extension of a road	65					
		Three drains cut	60	Construction of three roads.	67					
		Wells	34							
		Latrine sheds	114							
		Bridges	122							
		Thirteen stone drains	1,683	Two slaughter-houses	Not stated	Darjeeling	Two hat ditch boundaries were demarcated.	155	Darjeeling	Nil.
		Laying down of pipes	351				A new road	250		
		Construction of three new and improvement of one bathing place	1,277				Seven hais in the Terai were improved and one well sunk.	350		
		Removal of tannery ground	393							
Darjeeling	Darjeeling	Two slaughter-houses	119							
		Two slaughter-houses	57							
		Chowkidar's shed	187							
		Extension of a butcher's shop	637							
		A stable for sick ponies and shed for conservancy carts	532							
		Construction of two new latrines and improvement of two old ones	253							
		One urinal	165							
		Railing round water-works	80							
		A new road	246							
		A latrine	218			Julpigoree	This municipality is said, is not old enough to undertake sanitary work of any magnitude.	.....	Julpigoree	Nil.
Dacca	Dacca	One culvert	500	A pucca drain	100	Dacca	One road was made and it was provided with a drain along its length for the purpose of irrigation as well as for the drainage of the lands through which it runs	.....	Dacca	Nil.
		One embankment	1,930							
		A corrugated iron shed	807							
		A carriage drive	200							
		Opening of two mehters' passages	477							
		One new road	704							
		Improvement of old roads	320							
		A coal house	150							
		Two mehters' sheds	122							
		Removal of workshop	125							
Dacca	Naraingunge	A cattle bathing ghat	351							
		A mat wall	15							
		Recruiting of 14 mehters and mehteranes	1,436							
		Fencing municipal work-shop	329							
		Eight new lamp-posts	39							
		Land acquisition	20							
		Reconstruction of Greek Church gate								
		Two privies, the opening of two mehters' passages and the metalling of three roads								
		Metalling of three roads	385							
		Fencing of a burial ground and erection of a shed in it	76							
Dacca	Dacca	Filling up a cess-pool	3,618							
		Pipes for road sides	806							
		Two bridges	3,577							
		Five pucca drains	1,727							
		A road	475							
		Land acquisition	1,965							

Santhal Per- gunnaha.	Jamni	Two public latrines ... A pucca drain ...	.....	Santhal Per- gunnaha.	New roads were made in many places	Not stated	Santhal Per- gunnaha.	Ntl.	.....
.....
Santhal Per- gunnaha.	Shahabgunge	Remaking of three roads Protection work to a bridge ... One pucca well ...	290 451 1,580 48 130	.....	.....	.....	.....	.....	.....
Purneah	Purneah	Opening new kutcha roads ...	76	A bridge	Ntl.	.....	Purneah	Four tanks and eight wells	3,890
Maldah	English Bazar	A drain	193	.....	.....	.....	Maldah	Six wells	1,915
.....	Old Maldah	A masonry drain	246	.....	.....	.....	.....	Clearing jungles	347
Cuttack	Cuttack	Two pucca drains Sixteen culverts Two tin latrines Three waterways Widening a road Slaughter-house roof Stone flooring of market godown ... A well	709 192 243 35 284 468 291 22	Constructing and widening three roads Two tin latrines	.....	.....	Cuttack	Cutting a canal	323
.....	Kendrapara	.....	.....	.....	.....	.....	.....	Re-excitation of drains	32
Balasore	Balasore	Latrines ... Drains ...	418 500	.....	.....	.....	.....	Raising an embankment	29
Pooree	Pooree	One pucca road Improvement of a road A kutcha road Improvement of 13 wells One kutcha drain	962 198 80 87 60	A drainage channel A latrine	.....	.....	Pooree	One well	13
Hazaribagh	Hazaribagh	One well	168	One nullah	Ntl.	.....	Hazaribagh	Two tanks	290
Lohardugga	Ranchi	Ntl.	.....	.....	.....	.....	Lohardugga	.....	.....
Manbhoom	Purnia	Drainage works	156	.....	.....	.....	Manbhoom	.....	.....

OFFICE OF THE SANITARY COMMISSIONER FOR BENGAL,
The 15th March 1888.

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

APPENDIX No. IV.

STATEMENT SHOWING THE PERCENTAGES OF INCOME EXPENDED IN
EACH MUNICIPALITY IN BENGAL FOR ORIGINAL SANITARY
WORKS, FOR SANITARY WORKS OF AN ANNUALLY RECURRING
NATURE, AND FOR ALL MUNICIPAL EXPENDITURE PROPER.

DURING THE YEAR 1887.

Statement showing the percentages of Income expended in each Municipality in Bengal for Original Sanitary Works, for Sanitary Works of an annually recurring nature, and for all Municipal Expenditure proper during the year 1887.

DISTRICTS.		MUNICIPALITIES.		Percentages on Original Sanitary Works.	Percentages on Sanitary Works of an annually recurring nature.	Percentages on all Municipal Expenditure Pro- per.	DISTRICTS.		MUNICIPALITIES.		Percentages on Original Sanitary Works.	Percentages on Sanitary Works of an annually recurring nature.	Percentages on all Municipal Expenditure Pro- per.
24-Pergunnahs	North Barrackpore	48.68	20.88	30.40	Khulna	30.40	Satkhira	7.11	32.80	27.48			
Mozufferpore	Lalcanj	47.92	15.24	35.87	Hasaribagh	35.87	Hasaribagh	6.74	12.94	27.84			
Rangpur	Bhagulpore	31.32	48.93	18.30	24-Pergunnahs	18.30	South Dum-Dum	6.95	17.47	15.39			
Nuddea	Santipore	30.95	18.03	48.77	Hugli	48.77	Bansberia	6.43	32.47	67.07			
Dacca	Narainkanj	28.61	33.70	16.65	24-Pergunnahs	16.65	Bansberia	6.20	28.30	62.70			
Sarun	Sewan	28.41	6.49	32.80	Tippurah	32.80	Braunberia	6.16	45.98	36.08			
24-Pergunnahs	Rajpore	27.63	32.13	10.09	24-Pergunnahs	10.09	Goburdanga	5.87	52.54	34.83			
Bankura	Hishenpore	26.98	30.40	20.03	Ditto	20.03	Suburbs of Calcutta	5.84	41.50	35.79			
Shahabad	Sasseram	26.76	39.11	23.73	Backerganj	23.73	Perozepore	5.59	40.74	42.43			
24-Pergunnahs	Barnat	24.91	45.52	27.59	Backerganj	27.59	Culina	5.52	20.97	42.80			
Mozufferpore	Hajipore	24.28	40.15	30.23	Bardwan	30.23	Dainhat	5.38	35.73	40.09			
Midnapore	Ghatol	20.70	30.48	44.34	Dacca	44.34	Dacca	5.37	71.20	19.51			
Pubna	Polna	18.92	41.31	37.17	Bankura	37.17	Bankura	5.13	58.46	28.51			
Nuddea	Meherpore	18.89	38.61	36.95	Mymensing	36.95	Dootakona	5.02	25.43	8.90			
South Barrackpore	Sahebganj	18.84	55.47	21.73	Mymensing	21.73	Madaripore	5.02	40.86	41.93			
Monohyr	Buddhadesur	18.78	10.14	32.79	Faridpore	32.79	Dootakona	4.98	55.22	52.29			
Hugli	Kushia	18.23	49.08	36.21	Putna	36.21	Jhalokati	4.90	63.04	30.29			
Nuddea	Reviganj	17.96	29.05	35.83	Bankura	35.83	Ramjibpur	4.91	15.35	06.06			
Sarun	Serampore	17.81	30.11	47.34	Midnapore	47.34	Tumlook	4.82	47.06	40.07			
Hugli	Seraganj	17.15	31.01	27.12	Ditto	27.12	Darjiling	4.40	44.90	40.74			
Pubna	Purneah	17.07	40.28	29.95	Darjiling	29.95	Dumjipur	4.43	61.49	21.39			
Purneah	Kishoreganj	16.10	28.47	28.98	Midnapore	28.98	Shorepore	4.24	24.06	62.73			
Mymensing	Noakhali	15.48	28.65	16.76	24-Pergunnahs	16.76	South Suburban	4.23	66.28	20.92			
Noakhali	Nyehatti	14.89	22.62	24.33	Birhum	24.33	Suri	3.92	53.43	19.73			
24-Pergunnahs	Behar	14.87	44.75	22.32	Chummarun	22.32	Bettiah	3.92	80.21	22.06			
Patna	Cuttack	14.76	34.53	43.55	Darjiling	43.55	Kurseong	3.71	20.19	17.00			
Cuttack	Kendraparah	14.76	37.18	37.30	Hugli	37.30	Kotrung	3.64	38.53	39.64			
Ditto	Utterpara	14.75	31.72	32.35	Murshidabad	32.35	City Murshidabad	3.63	43.41	12.91			
Ballasore	Ballasore	14.62	66.69	25.05	Bogra	25.05	Bogra	3.30	33.71	55.41			
Gya	Gya	13.80	40.89	38.83	Gya	38.83	Tikari	3.07	23.01	28.50			
Durbhanga	Madanbani	13.50	52.47	17.01	Midnapore	17.01	Midnapore	2.93	63.32	27.39			
Khulna	Gobhatia	12.81	37.85	48.80	Shahabad	48.80	Juglajpur	2.80	33.89	31.90			
Mymensing	Nusserabad	12.47	14.58	14.67	24-Pergunnahs	14.67	South Barrackpore	2.80	58.95	36.52			
24-Pergunnahs	Puri	12.31	66.24	27.72	Bogra	27.72	Shorepore	2.60	45.33	66.26			
Mozufferpore	Baranagar	11.94	50.23	30.70	24-Pergunnahs	30.70	Barripur	2.31	48.59	33.66			
Monohyr	Monohyr	11.67	59.01	37.65	Nuddea	37.65	Goomakholli	2.18	35.84	28.15			
Gya	Daudnagar	11.56	44.67	25.79	Hugli	25.79	Hugli and Chinsurah	1.89	54.23	40.78			
Nuddea	Nuddea	11.04	60.36	43.90	Maldah	43.90	English Bazar	1.93	48.08	50.54			
Hugli	Haidyabatti	10.93	40.94	43.40	Khulna	43.40	Chundarkona	1.90	18.12	48.99			
Durbhanga	Howrah	10.79	43.66	22.75	Murshidabad	22.75	Berhampore	1.59	60.46	18.92			
Nuddea	Howrah	10.72	51.78	7.81	Julpajuri	7.81	Chunderkona	1.43	35.03	48.46			
Mymensing	Ranaghat	10.64	55.07	23.94	Shahabad	23.94	Julpajuri	1.35	45.54	14.22			
Howrah	Muktachacha	10.45	21.71	33.06	Mymensing	33.06	Shabooah	1.31	33.03	04.40			
Shahabad	Bali	10.43	24.18	62.21	Shahabad	62.21	Janalporo	1.08	22.83	35.48			
Sarun	Arrah	10.13	59.08	28.58	Chummarun	28.58	Buxar	1.04	66.50	51.41			
Burdwan	Chupra	9.81	52.73	31.29	Burdwan	31.29	Mothbari	.78	51.93	47.40			
Backerganj	Ranikanj	9.81	35.38	15.39	Backerganj	15.39	Burdwan	.77	46.94	51.48			
Nuddea	Burrial	9.66	63.08	19.57	Murshidabad	19.57	Nalcitani	.76	23.58	23.16			
Faridpore	Beerunagore	9.47	16.11	59.35	Midnapore	59.35	Jungipur	.75	59.58	29.80			
Rajshahy	Faridpore	9.40	70.31	18.44	Nuddea	18.44	Khirpul	.74	53.16	32.01			
Khulna	Ranipore Beaulah	8.95	59.94	22.00	Jessore	22.00	Kishanagur	.73	81.92	15.47			
Ranipore	Khulna	8.94	51.20	15.72	Chittagong	15.72	Jessore	.60	55.41	22.31			
Murshidabad	Ranipore	8.83	27.43	21.77	Chittagong	21.77	Chittagong	.50	66.52	33.10			
Monohyr	Kand	8.71	37.07	11.73	Bankura	11.73	Sonamukhi	.13	15.06	68.74			
Jessore	Janalporo	8.00	61.95	29.58									
Maldah	Kutchandpore	7.96	29.78	33.07									
	Old Malah	7.71	44.61	30.31									
							TOTAL FOR THE PRO- VINCE				8.94	48.14	30.38

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 5th April 1888.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

APPENDIX No. V.

**ABSTRACTS OF INSPECTION REPORTS ON TOWNS
VISITED IN 1887.**

Balasore Town.—*Inspected in January 1887.*—This town was found in a better state than before. In fact it was evident that Balasore had somewhat improved in sanitary condition, the chief improvement being an extension of the system of saucer-drains in two of the crowded parts of the town in one of which, consisting chiefly of pucca houses, the house-drainage has been got rid of and thus a very great nuisance removed. The conservancy arrangements also appeared to have received much attention of late. There were, however, yet many defects, particularly under the head of water-supply, which required to be remedied early.

The suggestions were :—(1) To devote year after year a larger proportion than only 7.56 per cent. of the income to rectify the sanitary defects that yet exist (2) To see that the sanitary clauses of the Municipal Act III (B.C.) of 1884 as far as they are in force, are administered with the desired activity and minuteness. (3) To have the kutcha roads gradually metalled, a certain length of them being done every year. (4) To give effect to my suggestion offered in the last report regarding the planting of trees on the sides of the principal streets. (5) To put up a cistern at the well in front of the thana, to be filled from the well, and to cause a small stream of water to be discharged from this daily through a small pipe so that a flow of pure water will continue running for sometime, and will assist in keeping the drains sweet ; also to consider the desirability of erecting a native basket lifter of water on some of the tanks and raising water by it and discharging into some of the larger pucca drains to keep them in a good state. (6) To carefully exclude rubbish from the pucca drains, and to warn house-holders and especially the conservancy staff, against casting it into these drains, as they are so fond of doing. (7) To have the town efficiently surface drained so that rain-water instead of collecting in pits and depressions may immediately escape into the drains. (8) To fully utilize section 227 of the Municipal Act, which requires owners of improperly drained land within 100 feet of municipal drain or outlet, to drain such land. (9) To diminish the number of trees overhanging tanks, or have the overhanging branches lopped off. (10) To have a sufficient number of tanks cleaned out, properly protected from pollution, and reserved solely for drinking. Also to consider the advisability of giving small sums to owners of foul tanks requiring help to enable them to treat the tanks in the manner indicated above. (11) To sink one or two of Norton's tubular wells as an experiment to see the quality of the water obtained. (12) To carry out those of the suggestions offered under the head of conservancy in the last Inspection Report as have not yet been attended to. (13) To include drains among surface cleansing and keep them permanently clean. (14) Not to allow cow and cattle ordure to be accumulated within house premises, but to have it either converted into cakes for fuel or removed at frequent intervals to the fields as manure or deposited on the roadside for removal by the conservancy carts. (15) In constructing public latrines in future to set apart separate buildings, and not different parts of the same building, for the accommodation of the two sexes, those for females being attended to by methranies only. (16) To fully use Part IX of the Municipal Act, which appears to be in force here, and import methers to work it properly. (17) To strictly enforce the provisions of the law in all cases in which private privies are situated too close to public drains, tanks &c (18) To take steps generally to improve the condition of the private markets. (19) To construct a properly appointed municipal market. (20) To have the tank close to the slaughter-house dug out. (21) To have the jungle in the Kuddam-Russul burial-ground cleared and kept down. (22) To avoid burials at random, at least in the public cemeteries, the graves being required to be dug here in regular lines with fixed spaces between each grave and each row of graves. (23) To get whoever returns to the town with the vesicles of inoculation on his arm or in a state to afford contagion punished according to the provisions of the law on the subject. (24) To require the Registrar appointed for registering births and deaths to go round some of the wards daily and try to detect evaders of the law. Also to ask the tax-collectors and the overseer to assist in this respect, the required information being easily obtainable by them while going their rounds in the performance of their ordinary duties.

Action taken on the suggestions :—(1) Greater attention is being paid to the sanitation of the town. (2) Trees have been planted on the sides of the principal streets. (3) The drains are being kept clean as far as practicable and the pucca ones among them are being flushed by raising water from tanks by means of *tenda*. (4) The owner of the land in front of the Kuddam-Russul burial-ground has been called upon, under section 227 of the Municipal Act, to drain it, and also to repair or to pull down the archway in front of the Kuddam-Russul, which threatens to fall down. (5) Cowdug in private premises is being disposed of by the owners turning it into cakes for fuel, a small quantity being, however, kept for manuring purposes. (6) Care has been taken to prevent the erection of private latrines near house, wells, tanks and public drains. (7) Two public latrines have been constructed, one for each sex, and methranies have been engaged to attend to latrines for females. (8) The chief market, called the Mandal's Bazar, is being properly drained and cleaned and provided with proper sheds with pucca floors by the owner. (9) The graves in the cemeteries are being dug in regular lines with fixed spaces between each grave and each row of graves. (10) Steps have been taken to guard against the entrance of pilgrims and other persons to the town in a state to afford contagion. (11) The Registers of births and deaths are being correctly kept.

Cuttack Town.—*Inspected in January 1887.*—I went round the town generally, and on the second day of my inspection had an interview with the Vice-Chairman. It afforded me much pleasure to see many improvements effected since last visit, and it appeared that the Commissioners were bestowing considerable attention in ameliorating the condition of the place. There were, however, yet many grave sanitary defects that called for urgent rectification. The water-supply was both deficient in quantity and bad in quality, the chief sources from which water is drawn being open to all sorts of pollution. The arrangements under the head of conservancy were, on the whole, very defective and in some instances highly objectionable, and those relating to the disposal of the dead were far from being satisfactory. The town, moreover, abounded with filthy pits and hollows containing water of the foulest character and full of decaying vegetation, which constituted a standing menace to public health and as such required to be got rid of as early as practicable.

The suggestions were:—(1) To allot annually a much larger proportion than only 46·8 per cent. of the income to rectify the existing defects and place such parts of the town as Juggernathbullav, Dalooram Misser's Lane, &c., that are very unhealthy, on a proper sanitary footing. (2) To see that the sanitary clauses of the Municipal Act III (B.C.) of 1884 as far as they are in operation, are administered with the activity and closeness that could be desired. (3) To keep the sidedrains sufficiently open for the ready escape of rainfall. (4) To consider the desirability of metalling a certain length of the kutoha roads every year. (5) To take great care to prevent encroachments on kutoha as well as pucca roads, the offenders being always dealt with according to the provisions of the law. (6) To put a stop to brick making within the limits of the municipality. (7) To strictly enforce section 232 of the Municipal Act and prevent the making of excavations for the purpose of taking earth, &c. therefrom, or of storing rubbish or other offensive matter therein. (8) To connect, as far as practicable, the filthy pits and excavations with one another and with the main drainage channel, and have the flood water of the Katjuri introduced into as many of them as possible. (9) To fully employ street sweepings and the solid refuse from the houses in filling up those of the pits that are at a distance from houses, taking up only a small number of the pits so that they may be dealt with quickly. Also, after they are filled up, to spread a thick layer of earth over the surface and encourage the growth of vegetation thereon. (10) To consider the advisability of acquiring a few of the excavations that are conveniently situated and converting them into proper drinking water tanks, the spare earth being utilized in filling in surrounding holes and depressions. Also to induce the rich owners of some of these to treat them similarly. (11) To consider the desirability of annually setting apart a small portion of the income for filling in some of the hollows with mud and sand from the river beds. (12) To gradually convert the kutoha sidedrains into pucca shallow saucer-shaped ones, specially in the more crowded parts of the town. (13) Wherever pucca drains are provided to make arrangements for connecting all house drains with them. (14) To keep the pucca drains properly clean and prevent the throwing of rubbish into them. (15) Not to permit the drains, both pucca and kutoha, to be encroached upon. (16) To reserve some of the better tanks solely for drinking and domestic purposes, and to thoroughly protect them from pollution. Also to introduce if possible the flood water of the Katjuri into them and obtain a thorough change of water. (17) Not to allow the banks of the Government tank called the Gunga Mandir to become covered with vegetation. Also to see that the banks of all tanks from which drinking water is taken are free from trees, &c. (18) To induce those who can afford the cost to re-excavate a few private tanks, protect them from inward drainage, &c. and reserve for drinking. Also to consider the advisability of giving small sums to those requiring help to enable them to treat some of the tanks similarly. (19) To have such tanks as are useless or cannot be kept in proper order filled up. (20) To sink one or two properly protected pucca wells every year at convenient places, and set them apart for drinking only, until a sufficient number of them is provided. (21) To make an experiment with one of Norton's tubular wells to see how it answers at Cuttack. (22) To have the conservancy establishment strictly supervised and full work got out of it. (23) To require the people to bring out at the appointed hour all house rubbish and deposit it on the roadside for removal by the conservancy carts, the existing accumulations around and at the backs of houses being removed at the cost of the owners. (24) To provide wheel-barrows for the proper conservancy of the narrow lanes. (25) To provide a few barrel-carts for the removal of fluid house refuse from the more crowded quarters of the town to the trenching ground for disposal, until such time as it can be discharged into pucca shallow public drains. (26) Not to allow cow and cattle ordure to be collected within house premises, but to have it either made into cakes for fuel, or removed to the fields as manure at short intervals, or put on the roadside for removal along with street sweepings, &c. (27) To have the large number of pig-stys that are said to be very dirty removed beyond the limits of the municipality. (28) To provide more public latrines at convenient places, and to have them either pucca or of corrugated iron. Also to gradually replace the existing kutoha structures by pucca ones, or to provide them with pucca floors and drains and partition walls of tin or corrugated iron, or generally adopt in their stead Hornbury's pattern corrugated iron latrines obtainable from Messrs. Burn and Company of Calcutta. (29) To tar the gumlahs, the drains and the walls of the public latrines up to three feet from the floor, at least once every month, and not once a year as is done at present. (30) To keep the tins of the latrine well tarred to protect them from corrosion. (31) To induce those who can bear the cost of construction to provide for themselves proper surface privies which can be easily cleaned. (32) To strictly prohibit

the improper disposal of night-soil by private methers, and invariably bring up the offenders for punishment. (83) To carry on the trenching system properly, the trenches being dug in lines one foot deep and one foot wide and a foot apart and only half filled with night-soil, the remainder being covered with earth. Also, when a part of the ground is manured as above to have it cultivated with such plants as jute, indigo, sugar-cane, Indian corn, &c., and with English vegetables. (34) To spare no pains to break the combination among the methers, at least do away with the offensive features of it, and gradually enforce the provisions of Part IX of the Municipal Act. (35) To provide pucca shallow drains all round the municipal market, Ranigunge half drain pipes being the best material to use for the purpose. (36) To see that the compounders or dispensers of European medicinal drugs possess certificates of competency. (37) To provide in the principal slaughter-house cross-bars and pulleys for slinging heavy carcasses. (38) To at once prohibit further interments in the Kuddam-Russul burial-ground, and request the Mahomedan community to plant it with rapidly growing trees and herbage, and to establish, if required, a public cemetery in its stead at the outskirts of the town. (39) To permanently keep down the over-growth of jungle in the burial-ground near the slaughter-house. (40) To always insist upon deep burials, the *chupper* being placed at least 4 feet below the surface of the ground. (41) Not to allow the clothes, pillows, &c., of the deceased to be appropriated by the Dhobis, but always destroyed by fire. (42) To fully utilize the provisions, particularly the penal ones, of the compulsory Vaccination Act, and have not only all the children born during the year, but also a good number of those who are still unprotected, vaccinated. (43) To specially appoint a man to go round the various wards alternately and detect and report for punishment all persons who fail to comply with the requisitions of the compulsory Registration Act. (44) To require the municipal servants such as tax-collectors and overseers, who have much out-door work to do, to report all births and deaths as a check on voluntary registration. (45) To require the tickets that are given for deaths reported to be made over before interment or cremation to the constable within whose beat the burial or the burning-ground where the body is taken for disposal is situated. (46) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions:—(1) The suggestion for diverting wholly or partly the money now spent in lighting is under consideration. (2) The conservancy establishment will be strengthened. (3) The number of public latrines has been increased, and some of the kutcha structures have been replaced by pucca ones. (4) The gumlahs and the walls of the latrines and the tin screens are being tarred once a month. (5) Night-soil is being trenched in the manner suggested. (6) Cross-bars and pulleys for slinging heavy carcasses will be supplied in the slaughter-house at Dobandha. (7) A Sub-committee has been formed to carry out the suggestions about the disposal of the dead.

Puri Town.—*Inspected in January 1887.*—I was glad to see improvement since last visit, and evidence of the progress the town was making towards better sanitation; but the health conditions of the place were still very far from being satisfactory. The drainage was as bad as before, the whole place daily soaking in an enormous discharge of fluid of the worst kind and during the rains becoming completely water-logged. The arrangements under the head of water-supply were very unsatisfactory, and required to be wholly revolutionized, while those relating to conservancy and disposal of the dead were not what they should have been, being very defective in several instances. The lodging-houses, too, were in a deplorable state, most of them consisting of small, low, ill-ventilated rooms which were little better than dark dungeons. In fact, much had yet to be done to put the town on a proper sanitary footing.

The suggestions were:—(1) To avoid in future the mixing up or omission of important items of income. (2) To sell off the lands belonging to the municipality and at present yielding an income of nearly Rs. 3,000 a year, and employ the considerably large sum of money which might be thus realised in removing some of the most pressing wants of the town and carrying out sanitary works of a permanent nature. (3) To seriously consider the desirability of slightly raising the taxes. (4) To annually devote as much money as possible for gradually carrying out the suggestions offered under the several branches of sanitation. (5) To show much greater activity in the administration of the sanitary clauses of the Municipal Act. (6) In repairing roads not to use laterite over a layer of street rubbish which cannot form a good foundation to a road. (7) Not to permit the roads to be even temporarily encroached upon by pandahs and shop-keepers during the festivals where the former are narrow, or where the structures put up are likely to occasion inconvenience to the passers-by. (8) To use earth and sand from the sea shore in filling up foul cess-pits and hollows when they are near the dwelling-houses, street-sweepings, &c., being employed in other cases. Also to take up only a few of the pits at a time so that they may be dealt with quickly. (9) To fully utilize section 232 of the Municipal Act and prevent or properly control the making of excavations in future. (10) Pending the provision of proper road-side drains, to have cess-pits under the verandahs regularly emptied and kept as clean as possible. (11) To divert towards providing a proper water-supply the money (Rs. 26,000) which is proposed to be expended in draining the Buradand and the neighbouring parts, and in constructing a pucca road down the middle of the Buradand. (12) To have the town properly surveyed and levels taken of its different parts, and a scheme prepared and gradually carried out, some progress being however made every year. (13) To have the sidedrains to the chief streets as well as those in the crowded localities pucca, shallow, and saucer-shaped. (14) To see that wherever pucca drains are provided

the house drains have pucca connections with them. (15) To ask the Local Government to intimate to other Local Governments in India that subscriptions are invited to provide Puri with a pure water-supply to diminish the excessively heavy incidence of cholera among the pilgrims. (16) To have the conservancy establishment strictly supervised, the work of each man being apportioned to him and that work taken from him in full. Also to make careful inquiries whether the establishment which the Commissioners pay for is really and fully employed or not. (17) To increase the number of draught cattle for conservancy carts. (18) To require the people to bring out at an appointed hour all house rubbish and deposit it on the roadside for removal by the conservancy carts, the present accumulations around and at the backs of houses being removed at the cost of the owners. (19) To provide wheel-barrows for the proper conservancy of the narrow lanes. (20) To introduce barrel-carts for the removal of the fluid refuse from the houses, at least from those in the crowded quarters, to the trenching ground for disposal, until such time as it can be discharged into pucca public drains. (21) Not to allow cow and cattle ordure to be stored up within the house premises, but to have it either converted into cakes for fuel or removed to the fields as manure at frequent intervals, or deposited on the roadside for removal along with the street sweepings. (22) To construct more public latrines at convenient places and set apart some of them and a few of the existing ones for the exclusive use of females. Also to consider the advisability of introducing the corrugated iron latrines called Hornbury's patent and sold by Messrs Burn & Co. of Calcutta. (23) To consider the desirability of attaching a mether to each of the public latrines. (24) To have the latrines intended for females attended to by methranies only. (25) To properly carry out the dry earth system in all the public latrines at least during the dry months if found impracticable during the rains. (26) To tar the gumlahs, the drains and the walls of the public latrines at least once every month. (27) To induce those of the inhabitants who can afford the cost of construction to provide themselves with proper surface privies which can be cleaned easily. (28) With the gradual increase in public latrine accommodation to adopt stringent measures to suppress promiscuous defecation. (29) To fully and properly work Part IX of the Municipal Act, and with its assistance keep the town quite free from any fecal accumulation. (30) To modify the present trenching system, and have the trenches dug in lines one foot deep and one foot wide and only a foot apart, and put only six inches of night-soil into them, the remainder being filled with earth. Also to cultivate the land thus manured. (31) To carefully consider the expediency of constructing a properly appointed market. (32) To insist upon deep burials in every case, the *chupper* being placed at least four feet below the surface of the ground. Also to see that interments are carried on in regular lines with fixed distances between each grave and each row of graves. (33) To at once prohibit intramural burial which is carried on by the Boistoms, the Mohants, and the Muthdars, and to provide without delay a public burial-ground at some convenient place for the use of these sects. (34) To have the clothes, &c., of the deceased invariably destroyed by fire. (35) To consider the desirability of burning the Hindu pauper dead instead of burying them in shallow, ill-covered graves. (36) To have the rubbish collected around and at the backs of the lodging-houses carted off at the cost of the offenders. Also in very bad cases to cancel or suspend the licenses of some of the recusants to serve as an example to others. (37) To fix, after an examination of the place, the number of persons to be allowed to put up in each lodging house, and mention it in the licenses, any infringement of this being made penal. (38) To overcome the opposition of the people to vaccination by the strict enforcement of the compulsory law on the subject, particularly its penal provisions. (39) To appoint a permanent vaccinator to carry on operations all the year round and put the town into a proper state of protection. (40) To see that, besides the children born during the year, a certain number of the older inhabitants also are vaccinated. (41) To require the mohurirs specially appointed for registering births and deaths to go round the various wards under their respective charge, visiting one or two every day, and try to detect all omissions of the requirements of the law, the offenders being always handed up to justice. (42) To require the conservancy jemadars to do this part of their duty more satisfactorily than heretofore. (43) To ask the overseers and tax-collectors to assist in detecting all evaders of the law, the required information being easily procurable by them during their ordinary rounds in the discharge of their proper duties. (44) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions:—It was resolved. (1) To enquire carefully and put a stop to the use of laterite over a layer of street rubbish in repairing roads. (2) To measure all the roadside lands and ascertain all encroachment cases. (3) To see that when any new house is built the suggestion about the proper provision of ventilation is observed. (4) To request the Vice-Chairman to enquire and report if there exist any pits in any ward in order that measures under section 232 of the Act may be adopted, as well as to see that no such pits are newly made in any part of the municipality. (5) Until regular drainage is provided, to make proper arrangement for the removal of sewage, &c., from the cess-pits under the verandahs. (6) To request the Vice-Chairman to take steps to have the town surveyed and levels taken for introducing a proper drainage system. (7) To make an application through proper channel to the Local Government to move the Supreme Government for sanction to ask the chief and opulent inhabitants of India to favour the municipality with subscriptions for carrying out the water-supply scheme which has been already reported to Government. (8) To direct the Overseer and the Nuisance Inspector to put a stop to the practice of storing cowdung, &c., within house premises, and to see that

in future it is deposited in convenient places outside the houses for disposal by sale. (9) Until permanent latrines can be provided, to ascertain how many temporary latrines will be required during festival seasons and the cost of erecting them. (10) To request the Vice-Chairman to (a) report if there is sufficient work for the male and female sweepers employed for cleaning private latrines, if not, what reduction can be effected in the establishment, and also if the present scale of pay of female sweepers admits of reduction or not; (b) report further regarding the sufficiency or otherwise of the additional bullocks and carts sanctioned lately for carrying on the conservancy works of the English quarter and part of Ward VI. (11) To fix 7 A.M. as the hour when the people will deposit all house rubbish on the roadside for removal by the conservancy carts. (12) To purchase two wheelbarrows from Calcutta for experimental use. (13) To purchase six barrel carts from Calcutta one for each ward, for removing fluid refuse from the cess-pits. (14) To enquire from Messrs. Burn & Co. the cost of Hornbury's pattern corrugated iron latrines, and purchase one or two in the current year if funds are available. (15) To make arrangement for employing from the existing establishment more metherers to clean public latrines as often as required. (16) To direct the Overseer and the Nuisance Inspector to attend strictly to the suggestions to carry out the dry earth system in the public latrines properly and to tar the gumlahs, &c., of these places. (17) To induce those who can afford the cost of construction to provide themselves with pucca privies. (18) To take all possible steps to keep every part of the municipality clean at the time of the festivals. (19) To carry out the suggestion about the shallow trenching of night-soil. (20) To direct the overseer to explain to the leading Mahomedan gentlemen of the town the suggestions for carrying on interments properly, and advice them to bury the dead bodies in deep graves. (21) To forward a copy of the remarks on the lodging houses to the President of the Lodging-House Committee for communication to the Health Officer. (22) To direct the registration mohairirs, ward jemadars and ward sircars to go round the respective wards to which they are attached to detect all evasions of the law, and to report for prosecution, the names of all such offenders.

It is reported that measures are being adopted to give effect to the above resolutions, and that the result will be communicated in due course.

Serajganj Town.—*Inspected in January 1887.*—I inspected the town in company with the Chairman—a native gentleman—and the medical officer, and found it in a bad condition. Its features had greatly changed by the shifting of the main channel of the Brahmaputra, which is now more than two miles away. Serajgunge was formerly esteemed a healthy place, but now it has become afflicted with fever of a malarious character. This, no doubt, is due to immense pits of great depth and size and of irregular outline, and generally reeking with decaying vegetation, having been dug for taking earth for the construction of roads and the raising of house plinths, the level of the place being low. These coupled with want of proper conservancy were seen to constitute the chief danger to public health. The drainage too was very defective—in fact, the existence of so many pits rendered it a matter of extreme difficulty. The water-supply was not sufficient for local requirements, and was of bad quality. To complete the chain of insanitary conditions, intramural burial was being carried on indiscriminately to the detriment of health, the dead being sometimes buried in the same room the people live in, under the belief that the souls of their deceased relatives will thereby be sheltered in a cool place and be never disturbed by the sun and rain. All these combined have tended to greatly lower the health status of the place. I was after all glad to find that the Commissioners were trying to remedy some of the evils noted above.

The suggestions were:—(1) To continue to devote year after year a fair proportion of the revenue to place the town, particularly such parts of it as Malsapara, Dhanbandi, Pakuria, Duttabari, Putiabari, Kayapati, &c., that are very unhealthy, on a thoroughly sound sanitary footing. (2) To consider the desirability or rather the necessity of slightly raising the taxes so that more money might be available for gradually remedying the defects under the several branches of sanitation and carrying out permanent sanitary works. (3) To see that the sanitary clauses of the Municipal Act as far as they are in operation are administered satisfactorily. Also to introduce a code of bye-laws framed under the abovenamed enactment. (4) To gradually metal the kutchha roads, a certain length being done every year. (5) To strictly enforce in future sections 202 and 204 of the Municipal Act, and prevent encroachments on roads and drains, dealing with the existing ones in the best manner possible. (6) To encourage by all means the use of zinc and corrugated iron for roofing in the *gunge*. (7) To pay much attention to section 195 of the Act, and require the house-holders to keep their holdings free from jungle. Also, to have the bamboo clumps at places thinned. (8) To connect the pits and hollows with one another, and try to introduce river water into as many of them as possible. (9) To fully utilise section 132 of the Municipal Act and prohibit the making of excavations at random. (10) To largely employ street-sweepings and the solid refuse from the houses in filling up pits and holes when they are at a distance from dwelling places, care being however taken to select only a few of these at a time so that they may be dealt with within a short period. (11) To consider the expediency of annually setting apart a small portion of the income for filling in some of the worst excavations with mud and sand from the river churs. Also to induce the rich owners of some of these to convert them into proper drinking tanks, utilizing the earth taken out in obliterating some of the smaller holes around. (12) To consider the advantages of using Ranigunge drain pipes in place of the wooden ones put under some of the roads to serve the purposes of

drains. (13) To divert the drains as far as possible from emptying into roadside tanks. (14) To have the private tanks kept in proper state or filled up. (15) If the tank which is proposed to be dug in memory of the Jubilee year proves a success, to gradually provide in central positions one or two more of the same sort which might be of smaller size. (16) To properly protect the kutchha municipal wells from pollution. (17) In sinking wells in future, to take care to surround their mouths with masonry platforms and parapets, and to provide light wooden covers for the top with an aperture in the centre for admitting vessels. Also to construct a shallow drain around the rim of the platform, and connect it with another drain so that the spill water may be carried to the nearest public drain or to a safe distance from the well. (18) To supply all the municipal wells with buckets and chains with pulleys for drawing water and prohibit the promiscuous dipping of vessels into them. (19) To sufficiently strengthen the conservancy establishment and increase the number of carts. (20) To have all the principal streets swept daily, and the lanes and by-paths at least twice a week, and the sweepings regularly removed. (21) To require the people to bring out at a fixed hour all house rubbish and deposit it on the roadside for removal by the conservancy carts. (22) To deal with the cess-pits within the house premises according to the provisions of the law. (23) Not to allow cow and cattle ordure to be collected within the compounds of houses, but have it either made into cakes for fuel or deposited in the fields as manure. (24) To provide more public latrines at convenient places, and exclusively reserve some of them for females. Also, instead of constructing latrines on the ordinary plan, to adopt the use of Hornbury's patent corrugated iron latrines obtainable from Messrs. Burn & Co., of Calcutta. (25) To have the latrines intended for females attended to by methranies only. (26) To induce those of the inhabitants who can afford the cost of construction to build for them proper surface privies which can be easily cleaned. (27) With the gradual increase in both the public and private latrine accommodation, to make persevering endeavours to put down promiscuous defecation. (28) To import a sufficient number of methers to properly work the provisions of Part IX of the Municipal Act. (29) To abandon the present trenching system, and in future have the trenches dug in lines one foot deep and one foot wide, and a foot apart, these being only half filled with faecal matter, and the remainder with earth. Also to undertake the cultivation of the trenching grounds and demonstrate to the public the value of this rich manure with a view to its ultimately being turned to advantage. (30) To require the owner of the market to early provide it with pucca shallow drains and gradually pave the floors. (31) To consider the advisability of establishing a properly appointed municipal market. (32) To build a public slaughter-house on a small scale, with proper drainage, water-supply, and other conveniences. (33) To provide the proposed graveyards without delay, and as soon as this is done to strictly prohibit interments within house premises, and require the people to plant all private burying places with trees. (34) To methodically carry on burial in the grounds to be provided in order that they may serve their purpose longer than usual, the graves being dug in lines with fixed spaces between each grave and each row of them. Also to see that bodies are buried deeply, there being at least four feet of earth over the *chupper* which is usually placed in Mahomedan graves. (35) To close the pauper burial ground which is too near the dispensary, and either select some other site or set apart a portion of the public one to be shortly established. Also to have the former dug over or ploughed, and planted with rapidly growing trees and shrubs. (36) To have the clothes, mats, &c., of the deceased always destroyed by fire. (37) To adopt stringent measures to put down the odious practice of throwing uncremated or partially cremated bodies into the river during the rains, and to invariably prosecute the offenders. (38) To do the best to excavate a big tank at the centre of the series of pits a mile in length in the midst of the *gunge*, using the earth obtained therefrom in filling up surrounding pits and hollows, and converting the level ground thus acquired into a public garden. (39) To make every endeavour to diminish as much as possible the offensiveness of the dirty cess-pools that chiefly contribute to the outbreak of malarious fever. (40) To consider the desirability of providing the coolie lines of the jute factory with Hornbury's pattern latrines with separate erections for men and women. (41) To see that in future the lines are more regularly built with definite spaces in front of or between each line for the free passage of air. Also while improving old busties to request the managers to lay down the lines according to which houses are to be built. (42) To fully utilize the provisions, particularly the penal ones, of the Compulsory Vaccination Act. (43) To have not only the number of births during the year overtaken, but also a certain number of the older inhabitants vaccinated. Also to see that vaccination is practised among the up-country coolies. (44) To consider the advantage of appointing, in place of the two *chuprassies*, a permanent Registrar who would register all births and deaths during certain hours of the day and during certain others go round the various wards alternately visiting one or two every day and try to detect all evasions of the requirements of the compulsory law. (45) To require the tax-collector to report regularly all births and deaths as a check on voluntary registration. (46) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions :—(1) Endeavours will be made to metal the kutchha roads gradually. (2) A code of bye-laws has been framed and submitted to Government for confirmation. (3) The excavations in the centre of the *gunge* have been connected with one another and with the river, and those behind the Kayapati and the Kapuriapati with the Tolakupi khall. (4) Section 232 of the Municipal Act is being strictly observed and the making of new holes no longer permitted. (5) Two additional conservancy carts have been constructed, and four more street sweepers employed. (6) The lands that were selected

for establishing burial-grounds have been ordered to be used in anticipation of their acquirement by Government declaration. (17) The services of the two registration chuprassies have been dispensed with and a Registrar appointed in their stead. (8) The overseer and the mohurir have been directed to verify the record of births and deaths by constantly enquiring into the subject during their daily rounds.

It was also reported that some of the other suggestions were under the consideration of the Commissioners,* and that provision had been made in the ensuing year's budget estimates for carrying out some of them.

Faridpore Town.—*Inspected in January 1887.*—I went round the town in company with Baboo Ambica Charan Mozumdar, Chairman, and Baboo Khurgeshur Bose, Medical Officer, and was glad to find that the place had considerably improved since last visit, particularly as regards drainage. It appeared that the Commissioners were taking interest in its sanitary welfare. Many grave defects calling for early reform were, however, still to be met with under the several heads of sanitation. The town, moreover, abounded with filthy pits and water-holes, and jungle was also very dense in some of the outlying villages and prevented the drying up of the surface. In fact, much had yet to be done to place the town on a proper sanitary footing.

The suggestions were:—(1) To allot annually a fair and equitable share of the income to gradually remedy the existing sanitary defects. (2) To show greater activity in the administration of the sanitary clauses of the Municipal Act. (3) To consider the expediency of gradually metalling the kutchas roads. (4) To interfere as little as possible with the fine avenue of *pipul* trees which must be a great comfort to the people in the hot season. (5) To require each house-holder to keep his holding clear from undergrowth. (6) In dealing with jungles to have the plants, as far as possible rooted up, and not cut only, and after being allowed to dry for a few days, burnt on the ground, or utilized as firewood. (7) To have all water-holes and depressions, as far as practicable, connected with one another and with the drainage system, so that they may be flushed out yearly, and become shallower from deposit of silt. (8) To consider the advisability of acquiring a few of the large excavations in central positions and converting them into proper drinking tanks, employing the earth which would then become available in filling in smaller holes around. (9) To make a commencement in the direction of providing pucca shallow saucer-shaped drains in the crowded quarter of the town,* and construct a certain length every year till the need for this sort of drains is thoroughly met. (10) To consider the desirability of re-excavating the tank near the kutcheries. Also to thoroughly protect its south end from inward drainage from the neighbouring pucca house, and have the branches of a few trees on its south side lopped off. (11) To prevail upon the rich owners of some of the filthy private tanks to re-excavate them and have them properly protected from pollution and reserved for drinking. (12) To take steps to connect all foul tanks with one another, and introduce flood water into as many of them as possible. (13) To have the tanks as are useless, or cannot be maintained in proper order, filled up. (14) To try one or two good wells as an additional means of water-supply. (15) To adequately increase the conservancy establishment as well as the number of carts. (16) To provide a few wheel-barrows for the proper conservancy of the narrow lanes. (17) To strictly require the people to bring out all house-rubbish at an appointed hour, and deposit it on the roadside for removal by the conservancy carts. (18) Not to permit the accumulation of dung, &c., within house premises, but to have it either converted into cakes for fuel or removed at frequent intervals to the fields as manure. (19) To gradually provide a sufficient number of public latrines at convenient places, and reserve a few of these for the exclusive accommodation of females. Also to consider the advantages of adopting the use of Hornbury's pattern corrugated iron latrines, obtainable from Messrs. Burn and Co. of Calcutta. (20) To have the latrines for females attended to by methranies only. (21) To induce those who can afford the cost of construction to provide for themselves proper surface privies which can be cleaned easily. (22) To carefully work Part IX of the Municipal Act, and never allow faecal matter to remain undisposed of for more than 24 hours. (23) To modify the present trenching system and strictly act upon the instructions given on the subject in the last Inspection Report. Also to cultivate the trenching ground. (24) To require the owner of the market to improve its condition generally, and keep the place as clean as possible. (25) To extend, if found necessary, the area of the public burial-ground for the Mahomedans. Also to advantageously utilize the spaces between each grave and each row of graves, that are sufficiently large for the purpose, and have bodies buried much more closely than at present. (26) To see that the *chupper* which is usually placed in Mahomedan graves is at least 4 feet below the ground surface. (27) To provide public cemeteries at the outskirts of the town, but well away from the inhabited quarters, for the use of the Mahomedans living in the Suburban villages, and ask them to plant all private graveyards with trees. Also to permit no burial within the limits of the town except in the places fixed by the Commissioners. (28) To have the clothes, pillows, &c., of the deceased always destroyed by fire and not thrown into the river. Also to take stringent measures to prevent the throwing of uncremated or partially cremated bodies as well as carcases of animals in it. (29) After the introduction of the Compulsory Vaccination Act to fully utilize its provisions, particularly the penal ones, and put the town into a state of proper protection. (30) To strictly enforce the provisions of the Compulsory Registration Act. (31) To require the Overseer, as well as the Conservancy Inspector to regularly report all births and deaths as a check on voluntary

registration. Also to systematically prosecute all evaders of the requirements of the law. (32) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions:—(1) Steps have been taken for improving the condition of such localities as Kamalpore, Goalchamat, &c., that are unhealthy. (2) The new Court-house Street has been levelled and metalled at a cost of Rs. 500. (3) Several culverts have been constructed to allow the flood water free passage through the town to the Dhole Samudra in the south. (4) The kutchery tank, known as the Laldighi, has been re-excavated and protected from inward drainage. The trees on its south bank as well as the overhanging branches of those on the east have been cut down, and a pucca ghât has been constructed on the south side for the convenience of the people frequenting the new court-houses. (5) The conservancy establishment has been increased from 15 to 28 methers. (6) Two additional carts and a pair of bullocks have been provided. (7) All the streets are now being daily swept, and the lanes, &c., once or twice a week, and the sweepings and house refuse utilized in filling up pits and hollows. (8) The cleaning of the latrine attached to the new court buildings have been undertaken. (9) Part IX of the Municipal Act has been brought into force. (10) Greater attention is being paid to the conservancy of the lodging-houses. (11) The Compulsory Vaccination Act has been introduced, and a vaccinator has been appointed and a vaccine station established.

Goalundo Town.—*Inspected in January 1887.*—The town, situated as it was on a *chur* of the river Pudma, was liable to be inundated and washed away during the rains, the latter circumstance necessitating the periodical shifting of its site. The Commissioners were therefore precluded from undertaking any structural improvements involving outlay of money. Considering its precarious condition, the sanitary arrangements seemed unobjectionable but capable of much improvement at a small cost.

The suggestions were:—(1) To induce the people, when building on new sites, to have the plinths of the houses raised as much as possible. Also to encourage the use of machans or other suitable conveniences of the sort to sleep on. (2) To have as many of the pits as possible connected with one another and properly drained by means of a suitable outlet channel. (3) In future when settling on a new site to require the people not to dig holes at random but to take earth from a few of these so that the big ones thus formed could be easily turned into serviceable tanks. (4) To keep the existing drains free to act, and prohibit the throwing of rubbish into and the taking of earth from them. (5) To make proper cuts to drain such places where water is found to accumulate and stagnate. (6) To sink a few wells at convenient places and set them apart solely for drinking. (7) To consider the desirability of giving small sums to owners of filthy excavations requiring help to enable them to dig these out into useful tanks that are to be reserved for drinking purposes. (8) To supply a few more hand or wheel-barrow so that the removal of filth and street-sweepings might be greatly facilitated. (9) To improve the condition of the existing public latrines and keep them properly clean and sweet. Also to consider the advisability of providing one or two corrugated iron latrines of Hornbury's pattern. (10) To ask the Railway Company to improve and properly look after the latrine near their engine shed. (11) To import methers and fully utilize the provisions of Part IX of the Municipal Act. (12) To have a portion of the *chur* well removed from the inhabited quarters set apart for the burial of night-soil from all the public and private privies, and prohibit its disposal at other places. (13) To see that the conservancy of the *serais* and lodging-houses is efficiently attended to, and that they are provided with a sufficiency of latrines. (14) To take steps to introduce the Compulsory Vaccination Act into the town. (15) To fully utilize the provisions of the Compulsory Registration Act. (16) To require the overseer to perform his duty in connection with registration more satisfactorily than at present. Also to ask the tax-collectors to report all deaths as a check on voluntary registration and try to detect all evasions of the requirements of the law, the offenders being always prosecuted. (17) To induce the midwives to give information of all births at which they attend.

*Action taken on the suggestions:—*Nothing is possible in this direction. The Magistrate reports that the entire site of the municipality has been washed away by the river Pudma.

Hughli Town.—*Inspected in February 1887.*—I inspected various parts of the town, and was glad to find evidence of interest taken by the Commissioners in its sanitary welfare. Many improvements had been carried out since it was last visited, but its condition was still far from being satisfactory. There were several grave defects, particularly under the heads of drainage and water-supply, which must be remedied before any high standard of health can be looked for. Parts of the town, moreover, abounded with foul pits and water-holes full of decaying vegetation, and the overgrowth of jungle in places was also very great and prevented free evaporation and drying up of the surface—conditions highly inimical to health. The arrangements regarding disposal of the dead, as far as interments were concerned, were extremely objectionable and required urgent rectification.

The suggestions were:—(1) To devote, according to the standing orders of Government on the subject, the whole of the money become available by the withdrawal of the Police charges and its non-replacement by the dispensary charges (the lighter of the two), except what is spent on education, for removing the insanitary conditions that still exist. (2) To take steps to introduce so much of the omitted portions of Part VI of the Municipal Act as bear on the construction of huts and houses. Also to display greater activity in the administration of the sanitary clauses of the Act. (3) To consider the desirability of metalling a certain length of the kutch roads every year. (4) To continue the

present plan of casting rubbish on the sides of some of the roads as it greatly improves their breadth, but only in localities somewhat removed from inhabited houses. (5) To require householders to keep the surroundings of their houses clear of jungle, cultivation of the ground as gardens being the best method of attaining this object. (6) To clear away trees and bamboos over-hanging tanks, and see that more sun and air are permitted to get at the soil about houses. (7) To strictly enforce section 232 of the Municipal Act, and put a stop to the making of further excavations. (8) To fully utilize street-sweepings, &c., in filling up existing hollows when they are at a distance from homesteads, taking up only a few at a time so that they may be quickly filled up. Also to use for the purpose earth procurable from the *churs* thrown up by the river for a long distance on the river face. (9) To acquire some of the larger hollows conveniently situated, and have them converted into good drinking water tanks, the surplus earth taken out being employed in filling of surrounding holes and depressions. (10) To consider the advisability of contributing small sums of money annually to one or two of the owners of other excavations desirous of treating them in the manner indicated above. (11) To have the town properly surveyed and levels ascertained, and an efficient system of drainage gradually provided, some progress being made every year, and care being taken to have the drains as far as possible diverted from emptying into the roadside tanks and water-holes. (12) To push on the provision of pucca shallow saucer-shaped sidedrains in the crowded localities. (13) To ask house-holders wishing to construct drains in front of their houses to do so according to the plan to be provided by the municipality. Also encourage the use of Ranigunge half-drain pipes as being very well suited for the purpose as well as for pucca drains inside houses and for connecting house with public drains. (14) Not to allow the existing drains to be obstructed with banks of earth by owners of gardens adjoining them, the evil being easily overcome by the use of drain pipes. (15) After the tanks, one at Balli and the other at Kadamtollah, are acquired, to have them re-excavated, properly protected from inward drainage as well as from other sorts of pollution, and reserved solely for drinking, each one of them being moreover provided with one or two pucca ghâts for drawing water. (16) To have such of the tanks as are useless, or cannot be kept in a wholesome state, filled up. (17) To induce the rich owners of some of the tanks to have them re-dug, protected from pollution and reserved for drinking and culinary purposes. (18) To take up in right earnest the question of supplying the town with filtered water, and do the best to promote and carry out this laudable project, joining, if possible, in the preparation of the scheme for the supply of filtered water to the riparian towns on the west bank of the Hughli as far as Serampore, and asking the intermediate towns of French Chundernagore, Bhudreswar and Baidibatty to co-operate in this grand movement. Also not to throw up the project, because it seems to be expensive, but to cause a proper estimate of the work to be prepared, and then consider the ways and means and see how much of the estimated amount can be raised by subscription. (19) To consider the desirability of acquiring a lease of the series of shallow ponds made by the railway authorities in constructing the branch line leading to the Hughli Bridge, of converting two or three of these into good deep tanks using the earth taken out to fill up shallow places, and of laying out a garden round them and maintaining it at small expense as a Jubilee memorial, part of the money subscribed for this purpose being devoted to its creation. (20) To adequately strengthen the conservancy establishment, increase the number of carts, and have the establishment strictly supervised. (21) To provide more wheel-barrow for the proper removal of filth and sweepings from the narrow lanes and by-paths. (22) To have not only the thirteen roads mentioned in the municipal memorandum book swept, but to see that others as well as lanes receive this attention at least twice a week. (23) To include drains among surface cleansing, and thereby keep them permanently clean. (24) To provide a few barrel-carts for the removal of fluid house and kitchen refuse to the trenching ground for disposal, until such time as it can be discharged into pucca shallow public drains. (25) To require the people to bring out at the appointed hour all house-rubbish and deposit it on the roadside for removal by the conservancy carts. (26) To provide more public latrines at convenient places and set apart some of them for the exclusive use of females. Also, instead of constructing latrines on the ordinary plan, to gradually adopt the corrugated iron structures, called Hornbury's patent, obtainable from Messrs. Burn & Co., of Calcutta. (27) To have some of the existing latrines which have gone out of use from removal of the mat-walls, enclosed either with mats or corrugated iron, the latter for choice. (28) To have the latrines intended for females attended to by methranies only. (29) To introduce the dry-earth system and properly carry it out in all public latrines, the methar in attendance being required to pour a sufficient quantity of dry-earth in the focal gumlah at frequent intervals. (30) To induce those who can afford the cost of construction to provide themselves with proper surface privies which can be cleaned easily. (31) To carry on the trenching system in the manner recommended in the last Inspection Report, and when a portion of the ground is well manured, to have it cultivated. (32) After the private markets are licensed, to insist on the owners gradually improving the condition of these places, and provide proper latrines and urinals near them for the use of the market people. (33) To enforce section 252 of the Municipal Act which provides for the registration of shops for the sale of European medicinal drugs and the appointment of certificated compounders. (34) To close all private graveyards within the compounds of houses, disarming the opposition of the Mahomedan community to the measure by explaining to them the evils of the present practice, and if necessary, by enforcing the provisions of the law on the subject except in the few cases where it would be expedient to continue the present practice. (35) To consider the desirability of establishing a few public graveyards on the outskirts of the town well away from the

inhabited quarters. (36) To see that in the existing cemeteries graves are dug in regular lines with fixed distances between each grave and each row of graves. (37) To have the mats, pillows, &c., of the deceased always destroyed by fire. (38) To carry on vaccination more actively than at present, and have not only the number of births during the year overtaken, but also a certain number of those who are still unprotected vaccinated. (39) To require the conservancy overseers and the amins to report all births and deaths as a check on voluntary registration, all evaders of the law who would be thus detected being always prosecuted. (40) To induce the midwives to give information of all births which they attend.

*Action taken on the suggestions:—*Nothing adequate seems to have been done in this direction. It was simply reported that the instructions with regard to the weeding out of jungle and cleansing of tanks were translated into vernacular, and printed copies of same were distributed among the people to impress upon them the necessity of adopting the suggestions for the sake of their health.

Burdwan town.—*Inspected in February 1887.*—I inspected this town in company with Baboo Nalinaksha Basu—the Chairman, the Vice-Chairman Baboo Mohendra Nath Pundit, and the Secretary. Before, however, visiting the several places, I discussed with these gentlemen the sanitary and the financial condition of the municipality, and heard their views concerning sanitary necessities. It appeared that the carrying out of the grand water-supply scheme had taxed the energies of the Commissioners to the utmost, and put a severe strain upon the finances of the town, and for the time being prevented them from directing their attention to other branches of sanitation. So the defects that were noticed on the last occasion still existed; but the Commissioners seemed to be aware of these.

The suggestions were:—(1) To continue to carry out sanitary improvements till the whole town is placed on a satisfactory sanitary position. (2) To favourably reconsider the question of fully utilizing section 236 of the Municipal Act, and gradually doing away with straw, &c., as roofing materials. (3) To re-open the outlet for the drain or moat on the south of the Rajbari, and allow free flow of drainage water. (4) To look after all the natural drainage channels through the town and have irregularities of bottom removed. (5) To have the town properly surveyed and a complete scheme of drainage undertaken and gradually carried out, one section being taken up one year and another section the following year as funds permit. (6) To provide pucca saucer-shaped sidedrains in the crowded localities and along the principal thoroughfares and use half Ranigunge drain pipes for the purpose. Also to see that wherever pucca drains are constructed all house-drains have pucca connections with them. (7) To take early steps for increasing the present filtered water-supply. (8) To serve notices upon the owners of filthy tanks first to de-water and then to fill them up, the Commissioners assisting in this with dry sweepings. Also to have all places filled with this stuff covered with dry-earth, ashes or cinders. (9) Not to use sweepings for tank filling in crowded localities during the hot and rainy seasons when holes in outlying places may be chosen with no houses near. (10) To ask the Raj Estate to permit persons to remove earth from the mound surrounding the Kristo Saugor, not generally as they pleased, but from fixed places and with fixed limit as to amount to be removed. (11) To consider the desirability of annually setting apart a small portion of the income for filling in some of the worst pits and hollows with earth from the Kristo Saugor. (12) To give early effect to the suggestions offered under the head of conservancy in the last Inspection Report. (13) To provide a few more rubbish carts, the existing ones being insufficient to remove the street-sweepings, &c., from nearly 49 miles of road surface. (14) To require the people to bring out all house rubbish at an appointed hour and put it on the roadside for removal by the conservancy carts, the existing accumulations in and around the houses being removed at the cost of the offenders. (15) To include drains among surface cleansing, and thereby keep them permanently clean. (16) In future, to construct latrines at convenient places as their usefulness depends on their being easily accessible by the people. (17) To introduce Part IX of the Municipal Act into the north part of the town. (18) To carry on the trenching system properly, the trenches being dug in lines one foot deep and one foot wide and only six inches of night-soil put into them, the remainder being covered with earth, and demonstrate the wonderfully fertilizing power of this manure. Also to provide for shallow trenching one or more plots of grounds convenient to the more distant latrines. (19) To ask the Burdwan Estate to carry out the suggested improvements in the Ranigunge and Burrabazar markets. (20) To take steps to gradually improve the condition of all the markets, and to supply a urinal in the vicinity of each of them. (21) Not to lose sight of the suggestion offered in the last Inspection Report regarding the provision of a good slaughter-house. (22) After the proposed burial-ground for the Mahomedans is established, to permit no more burials inside the grounds in the town. (23) If the proposal to build a new burning ghât on the north bank of the Banka river below the Kali Basar Anicut, be adopted, to provide a pucca enclosure for the purpose as well as a shed to shelter from the weather persons bringing bodies for cremation. (24) To adopt stringent measures to carry out the provisions of the Compulsory Vaccination Act, and to have not only all the children born during the year, but also a certain number of those who are still unprotected, vaccinated. Also either to cause operations to be performed all the year round or to temporarily appoint a second vaccinator for the vaccination season, so that the work may be considerably pushed on. (25) To require the tax-collectors and the overseers to report all births and deaths as a check over voluntary registration, all omissions thus brought to light being always prosecuted. (26) To induce the midwives to give information of all births which they attend.

Action taken on the suggestions:—(1) The expenditure on schools has been considerably curtailed. (2) Steps have been taken for making a survey of the town with the view of ascertaining the levels preliminary to the preparation of a scheme of drainage. (3) Saucer-drains will be constructed when the drainage scheme is taken in hand. (4) Attempts will be made to acquire suitable sites for trenching grounds, and the Secretary will be directed to select one on the southern side of the Banka. (5) Provision will be made in the next year's budget estimates for two more rubbish carts as well as for the erection of a few urinals at suitable sites. (6) The question of building a slaughter-house will be considered when the next budget estimates are prepared. (7) The proposed burning ground beyond the Kali Bazar Anicut will be properly enclosed, and a shelter shed will be erected for persons bringing bodies for cremation. (8) The conservancy overseers and the tax-collecting sircars will be directed to report all births and deaths.

Ranigunge Town.—*Inspected in February 1887.*—Ranigunge is almost entirely the property of the Bengal Coal Company, whose mines are on the west side between the town and the river Damudah, on the bank of which the houses of several of the employes are situated. I inspected the place in company with the Vice-Chairman, several native Commissioners, and Mr. Hill, the zemindari manager of the Bengal Coal Company, and also a Municipal Commissioner, and was disappointed to return after nearly 15 months to see that very little had been done to materially improve its sanitation. There was evidence of neglect on all sides. The insanitary conditions that were noticed on the last occasion still existed to the detriment of public health. In fact the indifference of the Commissioners to attend to the sanitary concerns of the town and carry out the good advice given in the previous Inspection Report greatly struck me, and reflected discredit on the municipal self-government here. Another thing which I was sorry to notice was the unfortunate habits of the people as to drinking. They frequent the numerous outstills and get drunk freely.

The suggestions were:—(1) To devote annually a fair share of the income for the rectification of the existing sanitary defects. (2) To consider the desirability of slightly raising the taxes, so that more money might be available for carrying out important sanitary works. (3) To strictly enforce the sanitary clauses of the Municipal Act. (4) To deal according to the provisions of the law with the encroachments that are being made by the people building their houses on the slopes of the feeder road. (5) To spread a good thick layer of coal refuse over all holes that are being filled in with street-sweepings. (6) To have a road run right through the Dhobipara busti, and have the locality efficiently surface drained, and provide a pucca well here solely for drinking. (7) To no longer delay the accomplishment of the drainage scheme prepared sometime ago and referred to in the last report. (8) To have all town drainage specially that from pucca drains carried outside the town. (9) Instead of relaying some of the pucca drains with brick-work, to use for the purpose half drain pipes made by Messrs. Burn & Co. (10) To see that wherever pucca drains are provided all house-drains have pucca connections with them. Also to encourage the use of drain-pipes as very well suited for the purpose. (11) To sink some wells at convenient places before undertaking the creation of the Sostiguriah *bandh*, and if funds are then available, to proceed with it. (12) To spend as much money as possible on wells every year until the water-supply be sufficiently increased to meet the requirements of the whole town, and to utilize pottery pipes in place of the ordinary earthen well-rings. (13) To carry out such of the suggestions offered under the head of conservancy in the last Inspection Report as have not yet been attended to. (14) To abolish the contract system for removal of street-sweepings, &c., and take up the direct management of the work. (15) To have the lanes and by-paths swept at least twice a week, and not occasionally as at present. (16) To include drains among surface cleansing, and thereby keep them permanently clean. (17) To remove the existing accumulations of rubbish in and around the houses at the cost of the offenders, and strictly require the people to bring out all house refuse and deposit it on the roadside at the appointed hour for removal by the establishment entertained for the purpose. (18) To no longer allow Part IX of the Municipal Act to remain a dead-letter, but at once take steps to properly work it. (19) To take early steps to remedy the existing defects in the market and gradually improve its condition. (20) To discontinue the practice of throwing the pauper dead on waste lands outside municipal limits to be devoured by vultures, jackals, &c., and have the bodies properly disposed of. (21) Not to allow large number of pilgrims to camp inside the town, but outside it in places provided for them. (22) To take steps without delay to have the necessary structural and other reforms in the coolie lines carried out. Also to improve the drainage and conservancy arrangements of these places, and provide them with sufficient latrine accommodation and a good supply of wholesome water. (23) To considerably push on vaccination during the ensuing seasons, and place the town in a thorough state of protection. (24) To require the tax-collector, who is also the overseer, and the tax-collecting peons to report birth and deaths regularly as a check on voluntary registration. (25) To induce the midwives to give information of all births which they attend.

*Action taken on the suggestions:—*It is reported that the Inspection Report will be shortly laid before the Commissioners at a special meeting, and the suggestions and the resolutions of the Commissioners thereon will be considered in framing the next year's budget.

Deoghur Town.—*Inspected in February 1887.*—I went over the town in company with the Chairman, Mr. Smith, the Vice-Chairman, and the Health Officer, and met several Commissioners in the course of my inspection and heard their views on different subjects touching local sanitation. The place was much in the condition in which it had been when

last visited by me in October 1880. Besides the provision of additional water-supply in the shape of a *bandh* to the south-east of the town, no other improvements seemed to have been effected during the long interval, nearly six-and-half years, that had elapsed between the present inspection and the last. There were many grave defects, particularly under the heads of water-supply and conservancy, which called for early rectification. The Pandah quarter was in such a filthy and insanitary state that frequent outbreaks of cholera might be apprehended.

The suggestions were:—(1) To devote annually an equitable share of the income to rectify the existing sanitary defects and gradually place the town on a proper sanitary footing. (2) To administer the sanitary clauses of the Municipal Act with greater activity than at present. To have the conservancy of the narrow lanes properly attended to, to prevent their being turned into repositories of filth of the neighbourhood; also if possible, to take opportunity on the occasion of fires, &c., to widen them. (4) By all means to prevent further encroachments upon roads, and try to remove the existing ones. (5) Not to permit brick-making within the limits of the municipality, as the pits dug very soon become offensive and affect health injuriously. (6) To fully utilize street-sweepings, &c., in filling up pits and excavations when they are at a distance from the homesteads, care being, however, taken to limit the operation to one or two at a time so that they may be quickly filled up. (7) To consider the desirability of constructing gradually a good pucca road right through the Pandah quarter, opening up as far as possible the crowded parts, a certain length being done every year. (8) To strictly enforce the sections of Part VI of the Municipal Act which refer to building regulations, and prevent the improper laying-out and erection of houses without proper provision for ventilation or passages between them for admitting conservancy carts. (9) Not to construct rectangular drains any more, but in future to have them only of saucer shape. (10) To gradually extend the system of pucca drainage and use half Ranigunge drain pipes for the purpose as far as possible. (11) Wherever pucca drains are provided, to insist on pucca connections being made between the house, and the public drains. (12) To at once discontinue the custom of throwing sweepings in the catchment area of any *bandh*, and either leaving or burning them there. (13) Instead of putting wooden logs, to build pucca parapets and platforms round the mouths of the municipal well and thereby effectually prevent the re-entry into them of the spill water which should be carried by means of a shallow drain to a safe distance from the well. Also to supply them with buckets and chains with pulleys for drawing water, and prohibit the dipping of private vessels into them. (14) To provide a few more public wells of the sort at central positions. (15) To carry out by subscription, and otherwise, the scheme proposed by Mr. Owen for the increased supply and improvement of the chief sources of water-supply. (16) To increase the number of draught cattle for the conservancy carts. (17) To discontinue the performance of all conservancy works indiscriminately by the *methers*, and have the work of each man defined, and that work taken from him in full. (18) To provide a few more wheelbarrows for the proper conservancy of the narrow lanes. (19) To strictly require the people to bring out all house-refuse at the appointed hour and deposit it on the roadside for removal by the conservancy carts, the existing accumulations around and at the backs of houses being removed at the cost of the offenders. (20) To construct a few more public latrines at convenient places, and reserve one or two of them exclusively for females; also, instead of building latrines on the ordinary plan, to give a trial to Hornbury's patent corrugated iron latrines obtainable from Messrs. Burr & Co. of Calcutta. (21) With the increase in public latrine accommodation to adopt stringent measures to prevent promiscuous defecation. (22) To take early steps to introduce Part IX of the Municipal Act. (23) To see that night-soil is not thrown on the ground as at present, but buried in shallow trenches as recommended in the last Inspection Report. Also to acquire or rent land for the purpose at the outskirts of the town, and when it is well manured, to have it cultivated. (24) To close as soon as possible the Mahomedan burial-ground which is situated in the heart of the town, and to provide another in its stead outside the limits of the municipality, and well removed from the inhabited quarters. Also after the new ground is established, to have the present one planted with rapidly growing trees. (25) To see that the *chupper* in the Mahomedan graves is placed at least four feet below the ground level. (26) To prohibit the appropriation of the clothes, pillows, &c., of the deceased by the *methers*, and have these dangerous relics always destroyed by fire. (27) To make arrangements during the ensuing season to considerably push on vaccine operations. (28) To fully utilize the provisions of the Compulsory Registration Act, particularly its penal clauses. (29) To require the Municipal Overseer and the tax-collecting *sircar*, who have much out-door work to do, to report all deaths as a check over voluntary registration, all evasions that would be by this means detected being dealt with according to the provisions of the law.

*Action taken on the suggestions:—*None of them seem to have been actually carried into effect. It is only reported that steps are being taken for introducing Part IX of the Municipal Act, and that resolutions have been passed adopting some of the other recommendations.

Darjiling Town.—*Inspected in June 1887.*—I inspected the town generally accompanied by the Vice-Chairman and the Engineer, and was glad to observe that several improvements had been carried out since last visit, the chief among them being the construction of stone drains, stone revetments on roads, bathing platforms, tanks for Dhobis, more public latrines, and a slaughter-house at Ghoompahar. In fact it was evident that Darjiling was gradually improving in sanitary condition. The water-supply question, however, still

required attention, and the villages of Ghoom and Jore Bungalow were very dirty and required to be properly cleaned out.

The suggestions were:—(1) To continue to devote year after year a fair proportion of the income to put all parts of the municipality on a satisfactory sanitary basis. (2) To provide road-fencing wherever required, especially on the western Jellapahar and Auckland roads, where there are several very dangerous places, and to continue the fencing above Boyne Lodge without a break from above Salt Hill to Emerald Bank on the Jellapahar road. (3) To obtain an abundant and much required supply of water by replacing the 4-inch main from Jore Bungalow to the reservoir by a 6-inch one, and transferring the present 4-inch pipe to the Senchal section. (4) To require the overseer to visit the villages of Ghoom and Jore Bungalow more frequently, and see the places properly cleared out. (5) To use Mirzapore stone further extensively for the soling of drains, and also advantageously employ square glazed tiles or slate for the purpose. (6) To request the Agent of the Maharaja of Kuch Behar and all other house proprietors to have house-drains laid down with half drain pipes so that house fluids will be much more quickly and efficiently removed. (7) To have the drain receiving fluid refuse from the Secretariat and neighbouring houses, carried directly down hill past Stortford House without forming the zigzag at Magdala Cottage. (8) To erect a bathing platform in the Bhooteah busti. (9) To provide each of the Dhobis' tanks with a light corrugated iron roof. Also to consider the desirability of building a drying house for washed clothes. (10) To give effect to such of the suggestions offered under the head of conservancy in the last Inspection Report as have not yet been attended to. (11) To make better arrangements for the proper removal of rubbish, &c., from the villages, and allow no accumulations in the Bhooteah busti as at present. (12) To require the owners of cow-sheds and pig-stys to keep them clean, and not to allow the dung from these places to be accumulated near dwellings, but have it removed and properly disposed of at frequent intervals. (13) To improve the condition of the public latrines, and have them better looked after. Also to provide proper ventilation in them by cutting three or four inches of corrugated iron away along the ground level to admit a current of air from below, or removing the lowest plank when walls are of wood. (14) To take early steps to obtain the use of the land on the Alubari estate for trenching purposes. (15) To ask Government to give to the municipality the use of the plot of land near the Tumsong busti, taken up for police lines but never used, for the erection of one or two sheds for the segregation of diseased ponies and cattle. (16) To supply the slaughter-houses with cross beams for slinging carcasses, and take early steps to improve the general condition of these places. (17) To carry out the recommendations made under the head of registration in previous reports. Also to require the Registrar specially appointed for the purpose to go round some of the wards daily and try to detect evaders of the law.

Action taken on the suggestions:—The Inspection Report was referred to a Joint-Committee composed of the Sanitation and Works Committee members who have lately submitted their report for the consideration of the Commissioners. The Joint-Committee accept most of the suggestions, and support especially that of increasing the water-supply.

Narainganj Town.—*Inspected in August 1887.*—Narainganj appeared to be an advancing place in a sanitary sense. Its roads were improved and its bridges were better. Some of the worst hollows had been and some more were being dealt with. A good number of public latrines had been provided and were in good condition. Cooly lines had much improved, and proper conservancy arrangements for these places had been provided. In fact it was evident that the Commissioners were exhibiting commendable interest in the sanitary affairs of the town.

The suggestions were:—(1) To steadily advance in the path of progress till the whole town is placed on a satisfactory sanitary footing. (2) To fully utilize section 227 of the Municipal Act, which requires the provision of drainage for all improperly drained land within 100 feet of any municipal drain, sewer, or outlet. (3) To consider the desirability of metalling a certain length of the kutchra roads every year. (4) To have the pits and hollows flushed with river water all through the system of canals and holes, which exist throughout the place. Also to always keep in view the suggestions made in the last Inspection Report under this head, and as far as possible act upon them. (5) To gradually extend the system of pucca drainage and use as much as possible half Ranigunge drain pipes for the purpose. (6) To see that the new culvert across the eastern road south of Messrs. Ralli Brothers' Mill is so made as to drain off and admit river water. (7) To construct a raised road along the south end of the Lyall's tank to protect it from inward drainage from Messrs. Ralli Brothers' cooly lines. (8) If possible, to have all the private tanks connected with the khals, or with the river so as to admit a daily supply of tidal water, and to allow floating vegetation to pass out. Also to see that the connecting openings are large. (9) To gradually carry out the suggestions offered under the head of conservancy in the last Inspection Report. (10) To provide a public slaughter-house which is a great desideratum here. (11) To always insist on deep burials as the only means of lessening the chance of contamination of the air. (12) To properly work the Compulsory Vaccination Act during the ensuing vaccination season, and place the town on a state of thorough protection. (13) To fully utilize the Compulsory Registration Act, particularly the penal clauses. (14) To have the persons charged with the duty of reporting all births and deaths punished under section 6 of the Act whenever they omit to give information of these

occurrences. Also to adopt measures generally to place registration on a satisfactory footing, birth registration receiving particular attention.

Action taken on the suggestions :—(1) The Tamakpati and the Nityeganj roads have been metalled. (2) Pucca drains have been constructed by the sides of Nityeganj, Bhagwanganj, and Sital Lakhya roads. (3) Ranigunge pipes have been purchased, and will be used to connect the ditches and fill them with river water. (4) One additional rubbish cart has been provided. (5) Night-soil is now being buried in shallow trenches.

Nasirabad Town.—*Inspected in August 1887.*—The sanitary arrangements of this town, though considerably improved of late, were still far from being satisfactory. The drainage was very defective, rendering the greater part of the town quite swampy and water-logged throughout the rainy season, and the water-supply for drinking and other domestic purposes was admittedly insufficient for local requirements. The conservancy arrangements still required much attention, while those relating to disposal of the dead as far as interments were concerned, were very unsatisfactory. I was, however, glad to see that the Commissioners were taking interest in the sanitary welfare of the place.

The suggestions were :—(1) To try the best to husband the resources of the municipality, and employ as much of the savings as possible for removing existing defects and carrying out permanent sanitary works. (2) To fully utilize section 227 of the Municipal Act, which requires the owners of all improperly drained land within 100 feet of municipal drain or outlet to drain such land. (3) To have the kutoha roads gradually metalled, portions being done every year as funds permit. (4) To have the buildings along the river bank opposite the town partially removed, by taking away a block of three or four houses every 100 yards or so. (5) To gradually provide the town with an efficient system of drainage, one part being done one year and another the next, so that the cost may be distributed over a convenient number of years. (6) To provide two or three pucca wells at convenient places every year till the wants of the whole town can be supplied. Also to consider the expediency of having wells made of Ranigunge drain pipes of suitable size. (7) Not to allow juto steeping to be carried on in the river. (8) To gradually carry into effect such of the suggestions made under the head of conservancy in the last two Inspection Reports as have not yet been attended to. (9) To induce those of the inhabitants who can afford the cost of construction to build for themselves proper surface privies which could be cleaned easily. Also to request the Raja Bahadur to grant permission to his tenants to do this. (10) To address the Government on the subject of proper latrine accommodation for the police who resort to the low land opposite their lines for purposes of nature. (11) To continue to work Part IX of the Municipal Act in spite of agitation against it. (12) Not to lose sight of the recommendations made under the head of markets in the last Inspection Report. (13) To establish a graveyard for the Native Christians. (14) To always insist on burials in lines with fixed intervals between each grave and each row of graves, and see that the *chupper* which is usually placed in the Mahomedan graves is not less than four feet below the surface of the ground. (15) To strictly forbid burials within house enclosures, and require all interments to be made in the public grounds. (16) Not to allow the clothes, pillows, &c., of the deceased to be taken away by the domes, but to have them invariably burnt along with the bodies. (17) To no longer remain indifferent to the insanitary condition of the serais for the Mahomedans, but to take immediate steps to rectify the defects pointed out in the last report. (18) With the aid of the Compulsory Vaccination Act to considerably push on vaccination operations during the ensuing season. (19) To give effect to the recommendations made under the head of registration in former reports. Also to induce the midwives to give information of all births which they attend.

*Action taken on the suggestions :—*Resolutions have been passed adopting several of the suggestions, but it is reported that none of them has been actually carried out, but will be attended to as early as possible.

Dacca Town.—*Inspected in August 1887.*—This town was found in much the same state as before; many of the insanitary conditions that had been observed on the last occasion still existed to the detriment of public health. Important measures, deeply affecting sanitation, such as the extension of the filtered water-supply, the provision of an improved system of surface drainage, the opening of passages for sweepers and conservancy carts in places, the construction of a public slaughter-house, the establishment of more trenching grounds for night-soil and burial-grounds for Mahomedans, &c., had been suggested in the last and former reports, but very little seemed to have been done to carry them out. In fact the Commissioners appeared to be in a chronic state of inability to effect much good in the town.

The suggestions were :—(1) To seriously consider the question of the diminution of the income, and take steps to prevent its recurrence. (2) To adopt measures to remove the existing defects, and place the town, specially such parts of it as Shakharibazar, Tatibazar, Kaltabazar, Rokonpore, Kassitooli, Sootrapore, &c. that are notoriously unhealthy, on a proper sanitary footing. (3) Either to raise a loan or sell off a portion of the landed property belonging to the municipality and employ the proceeds in carrying out urgent sanitary reforms. (4) To forward, through the Magistrate of the district, a copy of the expression of my views on the unfortunate difference of opinion on a legal point between the municipal executive and a bench of Honorary Magistrates with regard to a grave sanitary evil, viz. burial in private graveyards, to the Bench for consideration. (5) To see that the Buckland bund is not diverted from its original use and converted into a river bazar. (6) To draw up a complete scheme of drainage for the town and carry it out gradually, parts being done every year. (7)

To exercise the greatest watchfulness over the arrangements for cleaning out the vats into which house fluids are collected. (8) To keep in view the necessity of enlarging the bridges over the khals that pass through the town, as also their replacement by girder bridges. Also to deal with the evil of so many privies emptying direct into the khals. (9) To at once take up the question of the filtered water-supply, and have the necessary outlay sanctioned. (10) To see that the stand pipes are kept in good order to prevent water going to waste. (11) To insist in the filling up with earth from the river *chur* all filthy tanks and wells situated in quarters supplied with filtered water. (12) To give effect to the suggestions offered under the head of conservancy in the last Inspection Report, and make more than ordinary efforts to ensure the efficient discharge of the various duties comprised in this important branch of sanitation. (13) To try to the utmost to push on the work in connection with the acquirements of space for a cartway and mether's passage to the *gor* situated in Lal Chand Mokim's lane, and to other *gors* as well. (14) To compel the proprietor of the market at Sootrapore to put it into such a state as to be suitable for the sale of food, and in case of non-compliance, cancel the license for the market. (15) To introduce Part X of the Municipal Act, and fully utilize its provisions to improve the conditions of the private markets. (16) To construct a proper slaughter-house as has been repeatedly urged in former Inspection Reports. (17) To take immediate steps to put a stop to the objectionable practice of burying the dead in some of the old closed Mahomedan graveyards. (18) Not to allow the *chupper* in the Mahomedan graves to be placed only 18 inches, instead of at least four feet below the surface of the ground. (19) To organize measures for carrying on vaccination on an extended scale, so that the place may be thoroughly protected from small-pox. (20) To adopt measures generally, as recommended on previous occasions, to place registration on a satisfactory footing.

Action taken on the suggestions.—(1) Fifty up-country men and women have been added to the conservancy establishment. (2) The public latrines are now being properly looked after by a Portuguese Inspector. (3) About 5,800 private latrines are being cleaned every other day by municipal methers. (4) Of the *gors* four have been and six are being filled up.

Motihari Town.—*Inspected in August 1887.*—I was very glad to find that the sanitation of the town continued to engage the attention of the Commissioners. Some improvements had been effected since the town was last visited, but much more still remained to be done. The drainage and the conservancy arrangements were very defective and required to be largely improved. The water-supply question too demanded serious attention. In fact the unfortunate liability of this town to severe outbreaks of cholera was seen to depend in a great measure upon the defective arrangements as to water-supply and night-soil removal.

The suggestions were:—(1) To devote year after year a fair share of the income for the purpose of removing local insanitary conditions. (2) To devise some means for increasing the municipal revenue, so that more money might be available for carrying out sanitary reforms. (3) To make persevering endeavours to effectively deal with all pits and water-holes in the manner suggested in the previous Inspection Report. (4) With reference to the pucca drain on the east side of the zemindari market to take the opinion of an Engineer if the level of it has been properly laid. (5) To see that the drains are not encroached upon, and the flow of water impeded in front of houses and shops, and take stringent measures to deal with these obstructions. (6) To gradually give effect to the recommendations made under the head of drainage in the last report. (7) To provide some more pucca ghâts in the new tank near the *serai*, to prevent its banks being destroyed. (8) To have rubbish near the wells removed as soon as discovered. (9) To supply every public well with a metal bucket and enjoin its use. (10) To gradually carry out the suggestions offered under the head of conservancy in the last report. (11) To have the conservancy establishment strictly supervised, the work of each man being defined, and that work taken from him in full. (12) To require the people to bring out all house rubbish at the appointed hour and deposit it on the roadside for removal by the conservancy carts, the existing accumulations in and around the houses being advantageously disposed of at the cost of the offenders. (13) To take early steps to introduce Part IX of the Municipal Act. (14) To carry on the trenching system in the manner recommended on the last occasion, and when one part of the ground is manured to cultivate it to ensure the purity of the soil. (15) To have the mat huts in the municipal market properly arranged in rows with ample space between, and covered with non-inflammable materials. Also to see that the shops in the zemindar's market are sufficiently raised and covered with such materials as tiles, zinc, corrugated iron, &c. (16) To have the Mahomedan burial-ground extended in a direction away from the night-soil trenching ground, and to plant the portion of it which has been used up with rapidly growing trees and herbage. (17) With the aid of the Compulsory Vaccination Act to carry on operations during the ensuing season on a more extended scale. (18) To perseveringly carry out the recommendations made under the head of registration in the last report. (19) To induce the midwives to give information of all births at which they attend.

Bettiah Town.—*Inspected in September 1887.*—I inspected the town in company with the Sub-divisional Officer Mr. Bright, and saw nearly the whole of it. I was glad to find that some improvements had been effected since last visit; the chief among them being the metalling of roads, the extension of pucca saucer-shaped sidedrains, and the construction of spill drains, and platforms around several wells. It appeared that the Commissioners were trying to improve the sanitation of the place. There were, however, still many grave defects, particularly under the heads of drainage, water-supply and conservancy, which required attention.

The suggestions were :—(1) To do the best to reduce as much as possible the expenses under the head of "maintenance of hospitals, &c." (2) To continue to devote year after year a fair proportion of the income to rectify the grave defects that yet exist and carry out permanent sanitary works. (3) To show greater activity in the administration of the sanitary clauses of the Municipal Act. (4) To take steps generally to improve the condition of the houses of the people, and give effect to the suggestions offered on the subject in the last report. (5) To gradually carry out a good scheme of drainage. (6) To see if something can be done to connect the various water-holes in the moat round the Rajbari by an open channel, so that every heavy fall of rain would flush them to some extent. (7) To keep the pucca sidedrains in good repair. (8) To have the existing wells enclosed by masonry rims, and to provide masonry platforms round their mouths, and drains to carry off spill water. Also to clean them out frequently and keep the town surface scrupulously clean from night-soil, cow-dung, or decaying rubbish of any kind. (9) To sink one or two deep wells at convenient places, using Ranigunge drain pipes of suitable size, have the mouths protected in the manner indicated above, and observe the quality of the water obtained. Also to consider the expediency of experimenting with one of Norton's tube wells, unless Engineers have already found it unsuited to the district. (10) To gradually carry into effect the suggestions made under the head of conservancy in the last Inspection Report. (11) To introduce Part IX of the Municipal Act and have all night-soil daily removed from the town. (12) To construct a slaughter-house on a small scale as recommended in the last report. (13) To see that bodies are buried in regular lines with fixed spaces between each grave and each row of graves. (14) To fully utilize the provisions of the Compulsory Vaccination Act, and push on vaccination during the present season. (15) To have all the children born during the year regularly vaccinated, and in addition to this to operate on a certain number of the older inhabitants who are still unprotected. (16) If one vaccinator is not sufficient for the purpose, to appoint another temporarily.

*Action taken on the suggestions :—*It was resolved to provide for expenditure on the following heads in the next year's budget estimates :—

	Rs.
1. Erection of a slaughter-house	175
2. Ditto two latrines	200
3. Ditto two urinals	40
* 4. Two rubbish carts	100
5. Four wheel-barrows	30
6. Six street-sweepers	288
7. Two latrine sweepers	96
8. Cleaning roadsides	100
9. Repairing existing drains	600
10. Spill drains to wells	600
11. Cleaning wells	300
12. Surveying the town and taking levels	160
13. Feeding two extra bullocks	54
	<hr/>
	2,743

Rungpore Town.—*Inspected in September 1887*—The sanitary condition of this town was seen to have somewhat improved since last inspection, but was still very far from being satisfactory. There were many grave defects, particularly under the heads of drainage and conservancy, which seriously affected health. Jungle too was as rampant as ever and by preventing free perfilation of air and drying up of the surface added much to the insalubrity of the place which though no longer so highly malarious as before was still, and I fear is even now, one of the most unhealthy towns in Lower Bengal. Great attention on the part of the Commissioners was required to be paid to put Rungpore on a proper sanitary footing.

The suggestions were :—(1) To husband the resources of the municipality as much as possible, and do the best to remove existing defects and carry out well planned sanitary reforms which will permanently benefit health. (2) To display greater activity in the administration of the sanitary clauses of the Municipal Act. (3) To keep the sides of the roads and drains free from jungle, and see that the people do their part of the duty with respect to all lands owned or occupied by them. Also to encourage in the latter case, cultivation of the land as gardens as being the best method of destroying jungle. (4) To have the series of tanks towards the south side of Mahiganj connected by a channel with one another and with the drainage system. (5) To make sustained endeavours to gradually extend the system of pucca sidedrains, this being in the first instance done in the crowded localities and along all the principal streets. (6) Wherever the drains are made pucca to see that all house-drains have pucca connections with them. (7) To gradually give effect to as many as possible of the suggestions offered under the head of drainage in the Annual Report of the Civil Surgeon for the year 1886 an extract from which embodying his recommendations was sent to the Chairman for consideration under this office cover No. 1771RA of 3rd March last. (8) To provide the wells that are used solely for drinking purposes with buckets and chains with pulleys for raising water as early as possible. (9) To take

possession of the old wells in Mahiganj that are in a bad state, if no longer claimed by their owners, and put them into proper order and preserve as municipal property. If claimed by persons now living, to serve notice upon them to put the wells in proper order. (10) To consider the great advantage of introducing and encouraging the use of Ranigunge drain pipes of suitable sizes in place of the ordinary earthen well rings. (11) To gradually give effect to the suggestions offered under the head of conservancy in the last Inspection Report. (12) To make arrangements for the regular removal of all rubbish, &c. from the Dhap bazar, and properly attend to the work in connection with the filling up of the foul pit behind this place. (13) To seriously consider the subject of the shop-keepers throwing out jhamps beyond the proper road alignment to protect their shops from the sun, and take steps to remedy the defect. (14) To construct a proper slaughter-house on a small scale as recommended in previous reports. (15) To see that bodies are buried deeply, there being at least four feet of earth over the *chupper* which is usually placed in Mahomedan graves. (16) To have the clothes, mats, &c. of the Hindu dead always destroyed by fire. (17) To fully utilize the provisions of the Compulsory Vaccination Act, particularly its penal clauses, and have all the children born during the year, and a certain number of the older inhabitants who are still unprotected, vaccinated. Also to make arrangements for carrying on vaccination during the present season on an adequate scale. (18) To give effect to the recommendations made under the head of registration in the last report, and adopt measures generally for obtaining accuracy in registration. (19) To induce the midwives to give information of all births at which they attend, giving them, if necessary, a small fee for doing so.

Dinajpur Town.—*Inspected in September 1887.*—This town was found in a somewhat better state than formerly. Some improvements were seen to have been effected since last inspection, and it was evident that the Commissioners were taking interest in the sanitary welfare of the place. It afforded me great pleasure to see that work had been commenced in connection with the long contemplated drainage scheme which when accomplished will vastly improve sanitation. There were, however, still many serious defects, notably under the heads of water-supply and conservancy, calling for early rectification. The nuisance of foul pits and water-holes; too, continued unabated to the great detriment of public health.

The suggestions were:—(1) To continue to devote annually a fair and equitable portion of the income for removing the existing sanitary defects and carrying out other sanitary reforms that are calculated to improve local sanitation. (2) To supply a few more culverts that are required on some of the roads. (3) To have all depressions, holes, old tanks and *dobas* as far as possible connected with one another and with the principal drainage outlets, and to fill up with sand from the bed of the river Puranabhava such of them as will not completely drain out, some money being yearly devoted to this purpose. (4) To consider the desirableness of having one or two of the hollows in central position dug out into serviceable tanks, the spare earth being employed in filling up neighbouring holes and ditches. Also to gradually give effect to the suggestions offered under the head of pits and hollows in previous reports. (5) After the drainage scheme is carried out not to stop short here, but do the best to provide piece by piece as funds become available, pucca shallow saucer-shaped drains along the principal streets and in the crowded localities. (6) Wherever pucca drains are provided to see that all house-drains have pucca connections with them. (7) To properly drain the Gograh nullah which was full of foul water that smelt badly. (8) To deal with all foul tanks in the manner suggested before. (9) To induce the rich owners of some of the other tanks to have them re-dug, properly protected from pollution, and reserved for drinking. Also to consider the advisability of annually contributing small sums to the owners of one or two of the *dobas* to enable them to treat these similarly. (10) To provide the municipal and the other wells that are used solely for drinking with pucca platforms around their mouths, surrounded by shallow saucer-drains which should have connection with another drain to carry off spill water to a good distance from the wells. (11) To prohibit the dipping of private vessels into the municipal wells at least, and supply the wells with buckets and chains with pulleys for rising water. (12) In future to have the wells sunk deep in order that a perennial supply of water may be obtained from them. (13) To construct a certain number of good, well-protected pucca wells at convenient places, one or two of these being done every year. Also to use with advantage Ranigunge drain pipes of suitable size in place of the ordinary earthen well rings, the former being quite impervious and more durable. (14) To gradually give effect to the recommendations made under the head of conservancy in the last report. (15) To introduce Part X of the Municipal Act, and with its aid try to improve the condition of the private markets. (16) To establish public burial grounds for Mahomedans as early as possible, and after these are provided not to permit bodies to be buried in them at random, but in the systematic way suggested in previous Inspection Reports. (17) To discourage by all means the practice of burying the dead within house enclosures. (18) To see that the clothes, mats, &c., of the deceased are properly disposed of, and not simply thrown away. (19) With the help of the Compulsory Vaccination Act to push on vaccination during the present cold season, and to have not only all the children born during the year, but a fair proportion of those who are still unprotected, vaccinated. (20) To require the *Bakshi*, the Overseer and the tax sirsars to pay greater attention to birth and death statistics. Also to give effect to the suggestions offered under the head of registration in former reports, and adopt measures generally to secure accuracy in registration. (21) To induce the midwives to give information of all births which they attend.

Julpaiguri Town.—*Inspected in September 1887.*—This town was seen to have considerably improved since last visit, especially so as regards conservancy. The public latrines were coming more into use and promiscuous defecation was diminishing. The introduction of Part IX was apparently proving a boon to the people. The roads were in better condition. In fact it was evident that the Commissioners were anxious to gradually improve local sanitation. There were, however, still many serious sanitary defects, particularly under the heads of drainage and water-supply, which call for early rectification.

The suggestions were:—(1) To allot year after year a fair and equitable portion of the income for the purpose of carrying out sanitary works that are calculated to permanently benefit health. (2) To administer the sanitary clauses of the Municipal Act and the bye-laws with greater activity and closeness than at present. (3) Not to permit the roads to be encroached upon by extension of buildings and by fenceings, and to always deal with the offenders according to the provisions of the law. (4) To fully utilize street-sweepings and the solid refuse from houses to fill up filthy excavations and water-holes when they are at a distance from dwellings, care being, however, taken to limit the operation to a few at a time. (5) To consider the desirability of annually setting apart a small portion of the income for filling in one or two of the worst holes with sand from the river Teesta. (6) To have the town regularly surveyed, and a complete series of levels taken, so that a drainage scheme may be prepared, and after it is done to undertake it piece by piece and carry it out gradually till the project is accomplished, some progress being, however, made every year. (7) To take steps to gradually improve the condition of the house drains. (8) To keep down jungle on the inner slope of the tank near the Rajbari which affords good drinking water. (9) To do something towards providing wells of a better character, a few good pot ring ones being dug in suitable localities or more permanent ones sunk with Ranigunge drain pipes of large size. (10) To instruct the people to raise the mouths of their kuteha wells by a couple of pot rings supported by bamboo matting. (11) To gradually give effect to such of the suggestions offered under the head of conservancy in the last Inspection Report as have not yet been attended to. (12) To require the inhabitants to bring out all house-rubbish at the appointed hour and deposit it on the roadside for removal by the conservancy carts, the existing accumulations in and around the houses being removed at the cost of the offenders and utilized in filling up foul pits and excavations. (13) With the aid of Part X of the Municipal Act, which has been recently introduced here to put the private market into proper order. (14) To provide a proper slaughtering place as recommended in previous reports. (15) To fully carry out the provisions of the Compulsory Vaccination Act, and show considerable activity in protecting the town. (16) To have all the children born during the year as well as a certain number of the older inhabitants who are still unprotected, vaccinated. (17) To no longer allow the Compulsory Registration Act to remain a dead letter, and to carry into effect as early as possible the suggestions made under this head in former Inspection Reports. (18) To require the tax-collectors to report all deaths as a check on voluntary registration. (19) To take early steps to introduce the system of birth registration.

Action taken on the suggestions:—Resolutions have been passed adopting several of the recommendations. It was reported that they will be carried out gradually as funds become available.

Durbhanga Town.—*Inspected in November 1887.*—This town appeared to be growing in importance since the advent of the railway, but its sanitary condition was much the same as before. Some improvements were seen to have been effected since last visit, but they were quite inadequate to the wants of the place. It was studded with holes and vast excavations containing rotting-water, and the arrangements under the heads of drainage, water-supply and conservancy were far from being satisfactory. In fact, I was disappointed to return after nearly two years to see that little had been done to materially improve its sanitation. It seemed that what was really wanted was life in the administration of the municipality.

The suggestions were:—(1) To make every effort towards sanitary improvement, and disburse the revenue in such a way as to secure the greatest good for the greatest number. (2) To administer the sanitary clauses of the Municipal Act and the bye-laws with the activity and closeness that could be desired. (3) To perseveringly carry out the suggestions offered in the last report with respect to the treatment of foul pits and hollows. (4) To spare no pains to bring the contemplated drainage scheme to a speedy termination. Also not to lose sight of the suggestions made under this head in the last report but to attend to them as opportunity arises. (5) To fully utilize section 224 of the Municipal Act, which requires house-holders to repair and make efficient or remove drains, &c., and to encourage by all means the use of half Ranigunge pipes for the purpose of house-drains. (6) To supply the municipal wells with metal buckets and chains with pulleys for drawing water. (7) To require the municipal overseers to regularly inspect the wells, and have rubbish which has fallen in removed. (8) To consider the desirability of having the town wells de-watered every second year and thoroughly cleaned out. (9) To gradually, but perseveringly carry out such of the recommendations made under the head of conservancy in the last Inspection Report as have not yet been attended to, or if at all only imperfectly, and adopt measures for the prompt and proper removal beyond town limits and the effectual disposal of rubbish, sewage, night-soil and other offensive matters. (10) To provide a proper surface privy near the municipal market, and to request the Maharaja to do the same near the market belonging to him. (11) To establish at some convenient place a proper slaughter-house

with good water-supply, drainage and other appliances. (12) To construct the meat market in such a way as to suit the purpose for which it is intended. (13) To close all private burial-grounds within the town, and select lands of a suitable character outside town limits, and make them over to the Mahomedan community on the understanding that interments are made in a proper manner both as to depth and arrangements of graves. (14) To actively push on vaccine operations during the present season, and place the town on a state of thorough protection. (15) To properly carry out the suggestions offered under the head of registration in the previous report, and take an active interest in the matter and try to obtain correct statistics.

Mozufferpore Town.—*Inspected in November 1887.*—The state of this town was found to be almost as bad as before, nothing but roads being attended to. Drainage and water-supply were left to take care of themselves, while large municipal and conservancy establishments were kept up, from whom a minimum of labour was exacted. Indeed, it seemed doubtful if many of the men said to be employed used to do more than appear to take their pay. The town is a filthy undrained one, a standing discredit to municipal administration. Evidently the Commissioners were quite apathetic to the sanitary welfare of the place and seemed almost to be bringing themselves within the action contemplated in section 65 of the Municipal Act.

The suggestions were:—(1) To accord serious consideration to the suggestions offered under the several branches of sanitation in the present as well as in the previous report, and take adequate steps to materially improve local sanitation. (2) To give effect to the recommendations made under the head of "operation of the municipal laws" in the last report, and satisfactorily administer the sanitary clauses of the Municipal Act. (3) To consider the desirability of framing and bringing into operation a bye-law prescribing a penalty for non-compliance with a requisition made under section 206 of the above-named Act. (4) To perseveringly deal with the unremoved encroachments upon roads according to the provisions of the law. (5) To treat all pits and hollows in the manner recommended on the previous occasion. (6) To attend at proper season and with proper care to the pruning of the young trees planted along the station roads. (7) To do the best to promote and undertake a proper scheme of drainage as early as possible, and carry it out in parts as funds permit, some progress being, however, made every year. (8) To fully exercise the powers conferred by law and prevent the drains being encroached upon. (9) To carry out the suggestions made under the head of water-supply in the last Inspection Report. (10) To reconsider the decision arrived at on the subject of the water-supply scheme, sift the whole thing carefully, see how much of the estimated amount can be raised by subscription, and ascertain whether the levy of a water-rate will really be a hardship to the people and to what proportion of them. (11) To adopt measures for the prompt and proper removal beyond town limits and the effectual disposal of rubbish, sewage, night-soil, and other offensive matters. (12) To have the floors and the drains of municipal markets gradually made pucca. (13) To introduce Part X of the Municipal Act, have the private markets licensed, and insist on their owners maintaining them in proper order. (14) To take action under section 250 of the Act, and prevent the sale of unwholesome food and drink. (15) To remove without further delay the defects pointed out under the head of disposal of the dead. (16) To take immediate steps to push on vaccine operations, and properly administer the provisions of the Compulsory Vaccination Act. (17) To give effect to the recommendations made under the head of "registration" in the last Inspection Report. Also to require the Registrar specially appointed for the purpose to go round the several wards alternately, and try to detect and report for punishment all evaders of the law.

Chupra Town.—*Inspected in November 1887.*—The sanitary arrangements of this town were seen to be somewhat better than formerly. Greater attention was being paid to general cleaning, and steps had been taken for carrying out a proper drainage scheme. I was also glad to find that two slaughter-houses had been constructed, and 17 moveable iron latrines provided since last inspection. In fact, it was evident that the Commissioners were interesting themselves in ameliorating the condition of the place. There were, however, yet many defects particularly under the heads of water-supply and disposal of the dead, which injuriously affected health. The conservancy, too, was still capable of much improvement.

The suggestions were:—(1) To continue to allot year after year a fair proportion of the income to rectify the defects under the several heads of sanitation, and place all parts of the town on a proper sanitary footing. (2) To gradually metel a certain length of the kutchra roads every year, and construct a good pucca one through mohullah Ratanpore, which is densely populated and very unhealthy. (3) To use street-sweepings, &c., in filling up pits and water-holes, but only when they are at a distance from the dwelling-places, otherwise to have them filled up with earth and sand from the bed of the nullah close by. Also to set apart annually a small portion of the income for this purpose. (4) To strictly enforce section 232 of the Municipal Act, and prevent the making of further excavations at random. (5) To do the best to devote every year as much money as possible for quickly carrying out the contemplated drainage scheme. (6) To build no more pucca side drains at present till a scheme has been prepared for the whole town, as the levels might be wrong and the work might require to be done over again. (7) To give effect to the suggestions made under this head in the last Inspection Report as opportunity arises. (8) To consider the desirability of treating as reserved one or two additional tanks, and setting them apart for drinking only. (9) To improve the condition of the wells, the chief source of local water-supply, and provide the troughs in which spill water is collected for use by animals with a hole to let the water out occasionally. Also to set apart a sufficient number of wells for drinking and other domestic purposes,

thoroughly protect them from pollution, supply them each with an iron bucket and chain on a pulley or attached to a counter-weighted lifter, and strictly prohibit the dipping of private vessels into them. (10) To gradually give effect to such of the recommendations made under the head of conservancy in the last Inspection Report, as have not yet been attended to. (11) To see that the requisitions made to improve the condition of the private markets are duly complied with. Also to gradually carry out the suggestions offered under the head of markets and slaughter-houses in the previous report. (12) To by-and-by effect the improvements suggested under the head of disposal of the dead on the last occasion. (13) With the aid of the Compulsory Vaccination Act, to carry on operations this season on a much more extended scale than formerly. (14) To have all the children born during the year, as well as a fair proportion of the older inhabitants who are still unprotected, vaccinated. (15) To require the tax-collectors to pay greater attention to vital statistics. Also to adopt measures generally as suggested in the last report to secure accuracy in registration.

Patna City Municipality.—*Inspected in November 1887.*—There had been very little advance in the sanitary condition of this town since last visit. True, some improvements were found to have been carried out, but they were very few and not at all commensurate with local wants. Many of the defects that were observed on the last occasion still existed to the detriment of public health. In fact, the arrangements under the various heads of sanitation were almost as bad and unsatisfactory as when last seen, and this appeared to be mainly due to the faulty organisation of the Ward Committee system here which instead of being a help to the municipal executive was calculated to hamper their endeavours to promote sanitation. Urgent reforms were needed in the executive administration of the municipality.

The suggestions were:—(1) To do the best to curtail the expenses under the head of "construction, improvement, &c., of roads." (2) To see whether the large staff of peons in both the municipal and the conservancy establishments are really employed or not, and how 68 bullockmen are required and only 12 carters. (3) To have the Ward Committee system either properly conducted and controlled or abolished. (4) To devote year after year a much larger proportion than only 3·6 per cent. of the income to supply the wants of the place and carry out permanent sanitary improvements. (5) To satisfactorily administer the municipal law and the bye-laws. (6) To strictly enforce sections 202 and 204 of the Municipal Act, and prevent the roads being encroached upon in future. (7) To provide the lanes which have no sidedrains with central pucca channels which could be very well made of flat Ranigunge tiles. (8) To fully utilize section 232 of the Act, and either prohibit or properly control the making of excavations for taking earth, &c. (9) To allot annually a small portion of the municipal revenue to fill up one or two of the worst holes with mud, and sand from the *deara* of the river. (10) To see that central drainage channels are made of brick-on-edge and cemented. (11) To make more than ordinary efforts to gradually carry out a regular drainage scheme, one section being done one year and another section the next year as funds permit. (12) To gradually extend the system of pucca drainage to the crowded localities. (13) To always allow the house-drains to empty themselves into the public ones, and see that wherever pucca drains are provided the former have pucca connections with them. (14) To close the wells that were condemned by the Chemical Examiner as unwholesome and open out good ones in proper places. (15) To do the best to suppress the abominable well-prives which seriously contaminate the well water. (16) To pay the most careful attention to the question of the improvement of the local water-supply. (17) To move the Magistrate to take up the question of proper privy arrangements for the police and no longer put it off by attempting to transfer the responsibility from the shoulders of the police to that of the Commissioners. (18) To gradually but perseveringly carry out the suggestions made under the head of conservancy in the last report, and take adequate steps for the prompt and proper removal beyond town limits and effectual disposal of rubbish, sewage, night-soil and other offensive matters. (19) To require the owners of the private markets to provide these places with either tiled or corrugated iron-sheds, and improve their general condition gradually. (20) Not to lose sight of the suggestion made in the last report regarding the construction of a properly appointed market. (21) To apply to Government to extend to the town the provisions of Act VII (B.O.) of 1865, the Slaughter-house Act. (22) To no longer tolerate the present objectionable state of things in connection with interments, but to make every endeavour to give effect to the recommendations made on the subject in the last Inspection Report. (23) To at once stop the practice of throwing uncremated or partially cremated bodies, as well as the pauper dead, into the river, and see that the bodies are always properly disposed of. (24) To fully utilize the provisions of the Compulsory Vaccination Act, and place the town on a state of thorough protection by vaccinating every season all the children born during the year, as well as a fair proportion of the other inhabitants who are still unprotected. (25) To properly enforce the provisions of the Compulsory Registration Act, particularly its penal clauses. (26) To require the tax-collectors to report all births and deaths as a check over voluntary registration and the reports of the municipal jemadars, all omissions thus brought to light being dealt with according to law. (27) To induce the midwives to give information of all births which they attend, remunerating them, if necessary, by a small fee for doing so.

Arrah Town.—*Inspected in November 1887.*—Accompanying by the Vice-Chairman and for a time by the Civil Surgeon, I went over the town and saw its various parts. It was in much the same condition as before as to drainage, water-supply and general conservancy, but there were evidences to show that some interest was being taken in its sanitary affairs. The following were the chief improvements noticed to have been carried out since last visit:—

Some of the kutchra roads had been metalled; steps had been taken for pushing on the construction of pucca drains; four public latrines for males and five for females had been provided at convenient places; and land had been acquired for the construction of a slaughter-house at Rouza in place of the one at Anayeth. Much, however, still remained to be done to place the town on a proper sanitary footing.

The suggestions were:—(1) To carefully avoid mistakes and omissions in filling up the Inspection Memorandum Book. (2) To try the best to husband the resources of the municipality and employ as much of the savings as possible to remove existing defects and carry out sanitary reforms which will permanently benefit health. (3) To show greater activity in the administration of the sanitary clauses of the Municipal Act. (4) To early consider the question of bunding in the tank in the village of Nowada, and filling it with canal water, and carrying the drainage of the locality elsewhere. Also to have the village efficiently surface drained, and to construct a good pucca road through it, care being taken to open up the crowded parts, and proceeding with both the works gradually, a portion of each being done every year. (5) To devote as much money as possible to carry out within a few years the contemplated drainage scheme. (6) To see if the several sheets of water above and below a large pucca bridge not far from the old bed of the Ganges could be drained into it. (7) To have the branches of the *banian* tree overhanging the well lately repaired by the municipality lopped off. (8) To provide the other wells each with a chain pump and two reservoirs with taps, one for Hindus and the other for Mahomedans, and prohibit the dipping of private vessels into them. (9) To surround the masonry platforms round the mouths of the wells that are used for drinking by a pucca shallow saucer-shaped drain which should have connection with another drain to carry off the spill water to a safe distance from the well. (10) To prevail upon private persons to improve their wells, and in cases where they are undoubtedly bad, close them. Also to pay the strictest attention to such things as their proximity to well-privies and bad drains, and defects in repair and construction. (11) To provide the public latrines with proper receptacles for urine and washings. (12) To take up for trenching purposes another piece of land on the opposite side of the town towards the river. (13) To carry out further improvements in the conservancy arrangements here, in the shape of more public latrines and urinals, barrel carts for the removal of fluid house and kitchen refuse, measures for the regular cleaning of the private latrines, the suppression of the well-privies, &c. (14) To gradually attend to the suggestions made in the previous report for improving the condition of the market. (15) To take early steps to close the graveyards inside the town for reasons explained in the last report, and to provide one or two public ones in their stead at the outskirts of the municipality. (16) To make every endeavour to remove the local insanitary conditions which engender cholera and intensify its severity. (17) To provide a room at each vaccination depot for the accommodation of persons to be operated on, and have this made known to the public by a notice in the vernacular. (18) To dispense with the services of the new vaccinator unless he can discharge his duties satisfactorily. (19) To fully carry out the provisions of the Compulsory Vaccination Act, and place the town in a state of thorough protection. (20) To fully and perseveringly carry out the suggestions offered under the head of registration in the last report, and make every endeavour to secure accuracy in registration.

Gya town.—*Inspected in November 1887.*—Very few improvements were seen to have been effected since the town was last visited. The drainage and the water-supply arrangements were as defective and unsatisfactory as ever, and conservancy work continued to be very inefficiently performed. In fact Gya was much in the same condition as when last seen, but the Vice-Chairman told me that the state of embarrassment from debt was being gradually got rid of after which he hoped to make some advancement. Well planned sanitary reforms were urgently wanted to place the town on a proper sanitary footing.

The suggestions were:—(1) As soon as the finances of the municipality are in a better state to do away with the present unsatisfactory state of things, and take steps generally to improve local sanitation. (2) To fully utilize the bye-laws that have been recently framed after they come into force. (3) To pay immediate attention to the suggestion offered in the last report, to keep the side drains clean and in an efficient state. (4) To make some attempt to flush at regular intervals the large square underground masonry drains in the old town, as also the Kajapi pyne. (5) To encourage the use of Ranigunge drain pipes properly cemented at the joints for purposes of house connections, and have all water and fluids from houses, and specially from the lodging-houses conducted through the premises in half drain pipes of suitable size, and see that all such drains are kept open to permit of constant cleansing. (6) To give effect to the recommendations made under the head of drainage in the last report, and do the best to promote and undertake as early as possible a proper scheme of drainage based on a correct survey of the town. (7) To construct masonry platforms around the mouths of the wells resorted to for drinking, and surround the former by a shallow saucer-shaped drain having connection with another drain to carry off the spill water to the nearest public drain where possible or to a safe distance from the wells. (8) To provide wooden gratings to serve as a cover for the well mouths, and also iron buckets and chains for raising water, the indiscriminate dipping of vessels into them being prohibited. (9) To take up in earnest and without delay the question of providing the town with filtered water-supply, and do all to accomplish such a laudable project in the manner suggested. (10) To move the Magistrate to take such action in the matter of the non-attendance of the Bench Magistrates as it may appear to him to be called for. (11) To see that the cow and the cattle theds are always kept in proper order. (12) To see that the methers who are employed at public latrines have their families with them, and to employ the methranies on the female

portion of the buildings. (14) To have the urinals properly washed, and the contents of their reservoirs removed as often as necessary. (15) To encourage as much as possible the sale of night-soil to cultivators for manuring purposes, and make every endeavour to get rid of all in this way. (16) To gradually give effect to the suggestions offered under the head of conservancy in the last report, and make proper arrangements for the efficient carrying out of the multifarious duties of this important branch of sanitation. (17) To take steps to gradually improve the general condition of the private markets, particularly that of the one called the new godown. Also to require their owners to provide proper urinals and surface privies for the use of the people frequenting these places. (18) To take steps to prevent the sale of unwholesome food and drink. (19) To lose no further time in providing public burial grounds for Mahomedans. (20) To provide at convenient places two, or more if required, pucca enclosures within which cremation should be performed, and prohibit its being done at random on the dry bed of the river Phalgu. Also to erect a shed in or near each of the enclosures to shelter from the weather persons bringing bodies for cremation. (21) To at once stop the objectionable practice of throwing the pauper-dead on the other side of the river, and have the bodies invariably buried or burned at the cost of the municipality at other places than the bed of the river. (22) To carry out the recommendations made under the head of lodging-houses in the previous report, and adopt measures generally to mitigate the sufferings of the pilgrims while residing here. (23) To have vaccination notices stuck up at the depôts, and provide proper room accommodation for the vaccinator's books. (24) To have all the children born during the year, and a fair proportion of the older inhabitants who are still unprotected, vaccinated each season. (25) To provide more registering stations at central positions. (26) To require the overseers and the tax-collectors to report all births and deaths as a check over voluntary registration. (27) To induce the midwives to give information of all births which they attend, giving them a small remuneration if necessary for so doing.

Monghyr town.—*Inspected in November 1887.*—In company with the Vice-Chairman and the Civil Surgeon. I went round the town of Monghyr and saw its various parts and different places and institutions connected with sanitation. There were evidences to show that the Commissioners were interesting themselves in ameliorating the condition of the place. But many defects seriously affecting health still existed. In fact, much must yet be done before Monghyr can be said to be a well cared for town. With improved drainage and conservancy, its health status could be very largely improved.

The suggestions were:—(1) To devote annually a fair—at any rate a much larger proportion than only 3·98 per cent. of the income to rectify the existing defects and carry out sanitary reforms of a permanent character. (2) To improve the condition of the side-drains. (3) To have the busties in the western part of the town efficiently surface-drained, and one or two good roads constructed through them opening out the crowded localities as far as possible. Also to provide a few protected pucca wells here. (4) To fully give effect to the recommendations made under the head of drainage in the previous report. (5) To carry out the contemplated drainage scheme year by year as funds permit, beginning of course with the main outlets. (6) To have the drains in the crowded localities and along the principal thoroughfares gradually made pucca, and advantageously do away with the present cumbersome, costly and inefficient arrangement of cleaning out the vats in which house water from baths and kitchens is collected. (7) To gradually carry out the suggestions offered under the head of water-supply in the last report. (8) To provide a few more rubbish carts, and see that the conservancy establishment is properly supervised. (9) To give effect to such of the suggestions offered under the head of conservancy in the previous Inspection Report as have not been or only partially been attended to. (10) To consider the desirability of providing a cool shady place for the sale of meat. (11) To supply the slaughter-house with a strong beam on which to sling carcases when being skinned and cut up. (12) To see whether the plot of land further east would not answer well as an extension for the Mahomedan burial ground. (13) Not to lose sight of the recommendations made in the last report about the erection of a shelter shed for persons bringing bodies for cremation, and the appointment of a contractor to supply wood at the ghât at fixed prices. (14) To fully and properly carry out the suggestions offered under the head of registration in the last report, particularly that about requiring the municipal servants, such as tax-collectors, overseers, &c., to report births and deaths as a check on the police report and voluntary registration.

Action taken on the suggestions:—It was resolved. (1) To make arrangements for sweeping the drains daily. (2) To raise the tops of wells. (3) To carry out the other suggestions as far as possible.

Jamalpoore Town.—*Inspected in November 1887.*—I inspected the town in company with one of the native Commissioners and the subordinate staff, both the Chairman and the Vice-Chairman being unable to accompany me. The Vice-Chairman, who was the medical officer of the railway, was so seriously ill at the time that I could not even communicate with him in any way. I was glad to find that the Commissioners continued to manifest much interests in improving the health status of the place. Much had no doubt been effected in this direction, but the arrangements under the several heads of sanitation were still not without defects. Parts of the town, such as Nyagaon and Jehangira, were also in a very insanitary state.

The suggestions were:—(1) To continue to devote year after year a fair, but if possible, a much larger proportion of the income for removing existing defects and carrying out permanent sanitary improvements. (2) Not to lose sight of the recommendations made in the last report for enforcing the sections of Part VI of the Municipal Act bearing on building

regulations. (3) To induce the Railway Company to acquire the portion of the village of Nyagaon which wedges itself in among the houses of the European employes, or at least the section of it abutting on the road, and have the huts thereon demolished and the site levelled and cultivated or advantageously converted into a garden. (4) To provide more iron latrines in the village of Jehangira. (5) To do the best to carry out the suggestions offered under the head of drainage in the previous report. (6) To fully exercise the powers conferred by law, and prevent the drains being so built over as to obstruct the free flow of drainage water or to render them difficult to be cleaned. (7) To seriously consider the desirability of distributing by means of suitable pipes the water from the reservoir to the people of the station, particularly throughout the bazar, and all parts in which the Railway employes live. (8) To properly carry out the dry earth system in all public latrines. (9) To give effect to such of the suggestions made under the head of conservancy in the last report as have not yet, or if at all only partially, been attended to, and adopt measures generally for the efficient discharge of the multifarious duties of this branch of sanitation. (10) To consider the advisability of raising a loan for the construction of a proper municipal market. (11) To have the bodies as well as the clothes, &c., of the Hindu and Mahomedan paupers dying from small-pox, cholera &c, always burned or buried at the cost of the municipality. (12) To have all the children born during the year, as well as a fair proportion of the older inhabitants who are still unprotected, vaccinated every season.

Bhagulpore Town.—*Inspected in November and December 1887.*—I inspected this town generally, accompanied by the Vice-Chairman who is a native gentleman, and the Civil Surgeon. It afforded me much pleasure to see that the water-works had been completed and brought into use, and that the scheme was being further developed. The outlay in connection with this was doubtless very heavy, and for the time being prevented the Commissioners from attending to other sanitary wants which are not few. The drainage and the conservancy arrangements, particularly the former, were very defective, and required to be greatly improved. Much, in fact, still remained to be done to place all parts of the town on a satisfactory sanitary footing.

The suggestions were:—(1) To take particular care in correctly filling up the Inspection Memorandum Book, the state of things for the time being being fully and clearly described. (2) After the water-supply scheme is accomplished, to do all to remove the defects that are still to be met with under the several branches of sanitation, and carry out such other works as are calculated to permanently benefit health, it being borne in mind that filtered water alone cannot eliminate the chances of outbreaks of epidemic diseases. (3) To administer the sanitary clauses of the Municipal Act with greater vigor and activity than at present. (4) As funds permit, to have the back lanes in the Marwari quarter made pucca with brick-on-edge. (5) To see that the sidedrains are not blocked with rubbish. (6) To at once put a stop to the further taking out of earth from the pit behind the over-bridge, and deal with it as well as other pits and hollows in the manner suggested in the last report. (7) As soon as means are available, to undertake the drainage of Shoojaganj, but first of all to provide a proper outfall drain. (8) To consider the desirability of constructing proper sluice gates at the head of the drainage outfalls to shut out river water when it is in a state of flood. (9) With the general development of the water-supply scheme to get rid of the wells that are imperfectly protected. (10) To provide a few more barrel carts for the removal of refuse water, and see that the conservancy establishment is properly supervised. (11) To consider the expediency of providing proper receptacles on the road side in which house-holders may deposit refuse matter. (12) In constructing latrines in future to aim at iron walls, corrugated iron roof, and a thoroughly paved or cemented basement. (13) To gradually give effect to the recommendations made under the head of conservancy in the last report, and adopt measures generally for the efficient discharge of the several conservancy works. (14) To have the floors of Baboo Gurdhari Sahai's market paved throughout. (15) To supply both the slaughter-houses with beams for slinging carcasses. Also to consider the advisability of providing these places with hydrant water. (16) To carry out the recommendations made under the head of disposal of the dead in the previous Inspection Report, immediate effect being given to those that can be attended to almost inexpensively. (17) To provide more vaccination depôts at convenient places. (18) To fully utilise the provisions of the Compulsory Vaccination Act, particularly the penal ones, and place the town in a state of thorough protection. (19) To establish more offices at central places for the registration of births and deaths. (20) To appoint none as Registrar who is not conversant with the written and vernacular language of the place where he is employed. (21) To fully and perseveringly carry into effect the suggestions offered under the head of registration in the last report, and take steps generally to obtain as much accuracy in registration as possible.

Sahebganj Town.—*Inspected in December 1887.*—I went round the town in company with Baboo Hem Chundra Mookerjee, the Vice-Chairman, and found that its sanitary condition had somewhat improved since last inspection. Some of the roads had been metalled with stone and kunker, and a lane opened in Coolipara, and better arrangements made to look after conservancy works. There were, however, still many defects, particularly under the heads of drainage and water-supply, which must be removed before any improvement in the public health can be reasonably hoped for.

The suggestions were:—(1) To continue to devote annually a fair proportion of the income for removing all existing defects and taking steps generally to improve the health status of the place. (2) To show greater activity in the administration of the sanitary clauses of the Municipal Act. (3) To gradually metal the kutoha roads, a certain length being one every year. (4) To fully exercise the powers conferred by law, and prevent

the making of encroachments upon roads and drains: (5) To have the Dosadpara and Coolipara busties opened up by good roads, and extension over a larger surface than they at present occupy. (6) To lower the water level of the central tank by making a junction with the nullah running on the west. (7) To improve the drainage outlet in the north-west corner of the town. (8) To consider the desirability of having several coolies told off to keep the drains in order, whose sole business this would be. Also to see that rubbish, &c., are not swept under door-steps and platforms. (9) To gradually carry out the recommendations made under the head of drainage in the last report. (10) To considerably increase the present water-supply by providing more wells at convenient places. (11) If funds permit, to treat the municipal tanks in the manner suggested in the previous report. (12) In sinking wells in future, to use Ranigunge drain pipes of suitable size in place of the ordinary earthen well rings. (13) To properly carry on the filling in of the tank which is being done in a crowded neighbourhood, and have some cart loads of earth spread over the sweepings used for the purpose. Also to have the water in the tank baled out before casting in sweepings. (14) To provide a few more carts and bullocks and have the lanes swept at least twice a week. (15) To construct more public latrines in places convenient to the people. (16) To make representation to the Railway Company to provide latrine accommodation near the steamer ghat. (17) To see that the urinals are properly managed and kept clean and inoffensive. (18) To give effect to such of the suggestions offered under the head of conservancy in the last Inspection Report, as have not or only partially been attended to. (19) Not to lose sight of the question of providing a slaughter-house. (20) To act up without further delay to the recommendations made under the head of disposal of the dead in the previous report. (21) To take steps generally to have all the children born during the year as well as a fair proportion of the older inhabitants who are still unprotected, vaccinated every season. (22) To fully utilize the provisions of the Compulsory Registration Act, and make every endeavour to secure as much accuracy in registration as possible. (23) To require the agency employed for collecting death statistics to pay equal attention to birth registration. Also to induce the midwives to give information of all births at which they attend.

Purneah Town—*Inspected in December 1887.*—I was glad to see that the sanitary condition of this town was a little better than when I inspected in January 1886. Some improvements have been effected, the chief among them being the opening up of the Chandni Chowk busti by constructing three roads through it; the completion of the Lalganj drain at a cost of over Rs. 2,100; and the reconstruction of Sherman's bridge which was carried away by flood, the expense incurred amounting to nearly Rs. 2,500. In fact it was evident that the Commissioners were taking interest in ameliorating the sanitation of the place. Many defects, however, still existed which injuriously affected health and as such called for early rectification.

The suggestions were:—(1) To do all that could be done to prevent the income from falling short again. (2) To continue to devote every year a fair and legitimate proportion of the income to remove the existing defects and to carry out well devised schemes of sanitation calculated to permanently benefit health. (3) To administer the sanitary clauses of the Municipal Act with greater activity. (4) To require the owners of lands in the crowded part of the town to keep them free from jungle, the best method of attaining this object being cultivation of the grounds as gardens. (5) To raise the floor of the culvert under the main street and to have the outlet from it made pucca for about 30 yards. Also to keep the other drains free to act during all seasons. (6) To gradually give effect to the recommendation made in the last report about the provision of pucca shallow saucer-shaped side-drains in the crowded localities, a certain length of the drains being constructed every year as funds permit. (7) To gradually provide all municipal and other wells that are used for drinking with masonry parapets and platforms around their mouths, and to construct a pucca shallow circular drain around the rim of the latter having connection with another drain to carry off spill water. Also to provide the wells with metal buckets and chains with pulleys for raising water and to prohibit the dipping of private vessels into them. (8) To encourage, as much as possible the use of Ranigunge drain pipes in place of the ordinary earthen well rings. (9) To adequately strengthen the present conservancy establishment. (10) To provide tarred gumlaha in the latrine attached to the *serai* and employ dry earth to keep it clean and sweet. (11) To strictly enquire whether the private privies are daily cleaned or not, and to ascertain whether the night-soil from them is removed to the trenching ground or otherwise disposed off. (12) To gradually, but perseveringly carry out the recommendations made in the previous report for improving the conservancy arrangements. (13) To take steps for the proper disposal of blood, offal, &c.; from the slaughter-houses. (14) To remedy the defect pointed out under the head of disposal of the dead. (15) To vaccinate every season all the children born during the preceding 12 months as well as a fair proportion of the other inhabitants who are still unprotected. (16) To require the tax-collectors and the overseers to report all births and deaths as a check over voluntary registration. Also to ask the registration mohurirs to alternately go round the parts of the town under their jurisdiction and to try to detect omissions to register the events. (17) To induce the midwives to give information of all births at which they attend.

English Bazar Town—*Inspected in December 1887.*—I went round the town with the new Chairman, the local Medical Officer, and the Vice-Chairman, and was much disappointed to see that very little had been done since I last visited the town, nearly two years ago, to improve its sanitary status. Many of the defects then noticed were still observable. It seemed to me that English Bazar was going back in sanitation; perhaps there may have

been some neglect during the election times, but generally sanitary matters were not so well looked after as they used to be, even when things were by no means satisfactory. The arrangements under the heads of drainage, conservancy, and disposal of the dead were as defective, and in some instances as objectionable as ever. On the whole, I was obliged to record an unfavorable opinion on the administration of the Municipality by the old Committee, who did not appear to have exhibited proper interest in improving the condition of the place committed to their care.

The suggestions were :—(1) To do the best to gradually remove the grave insanitary conditions affecting health and carry out permanent sanitary works. (2) To frame and bring into operation a code of bye-laws under the Municipal Act. (3) To gradually give effect to the suggestions offered under the head of roads in the last report. (4) To keep the sides of the roads and drains free from jungle, and to call upon the people to do their part of the duty with respect to all lands owned or occupied by them, in the latter case the cultivation of the grounds as gardens being the best method of destroying jungle. (5) To gradually obliterate the existing filthy pits and excavations in the manner suggested in the previous report, and to prevent the further creation of these at random. Also to consider the desirability of annually setting apart a small portion of the income for filling in one or two of the worst holes in crowded localities with mud and sand from the river *chur*. (6) To keep the drains quite free to act at all seasons and make some attempt to flush them at short intervals. (7) To provide proper outlets to some of the old drains. Also to gradually extend the system of pucca shallow sidedrains throughout the town beginning of course with those quarters where they are urgently wanted. (8) To gradually carry into effect the recommendations made in the last Inspection Report under the head of water-supply. (9) To scrupulously guard against the banks of the river being resorted to for defecation. (10) Either to properly carry on the process of filling up with rubbish the old tank I saw in a thickly inhabited quarter, or to stop further action in this direction the present masses of rubbish being covered with earth from the river bank. (11) To perseveringly carry out the reforms suggested in the last Report under the head of conservancy, those that can be done almost inexpensively receiving attention at once. (12) To remedy the defects pointed out under the head of markets and slaughter-houses. Also not to lose sight of the suggestions made on the last occasion to improve the condition of the private markets. (13) To give effect without delay to the recommendations made under the head of disposal of the dead in the previous report. Also to generally refuse permission to bury within house enclosures, except in the few cases where this might be deemed inexpedient. (14) To no longer allow the Compulsory Vaccination Act to remain a dead-letter, and vaccination to be carried on in a haphazard way, but to take adequate steps to push on the measure during the next season and place the town in a state of thorough protection. (15) To fully utilize the provisions of the Compulsory Registration Act, particularly the penal clauses. (16) To require the tax-collector and the overseer to report all births and deaths as a check over voluntary registration, and to ask the Registrar to go round some of the wards daily and try to detect all evaders of the law.

Hazaribagh Town.—*Inspected in December 1887.*—I inspected the town accompanied by the Civil Surgeon and the Vice-Chairman, a native gentleman, who takes great interest in municipal matters, and was glad to find that some improvements had been carried out since my last visit. On the whole the sanitation of the town was considerably better than before, but could not yet be called to be satisfactory. The wants of the place were still many, and some of them required early attention.

The suggestions were :—(1) To devote every year a larger proportion than 6·74 per cent. of the income to remove the existing defects and carry out such other works as are calculated to permanently benefit health. (2) To construct one or two good pucca roads through Khirgaon and Mulla Toli, care being taken to open up these unhealthy localities as much as possible. (3) To make the outlet of the main central drain straight and wider after making the flooring of the upper part pucca. (4) In constructing pucca drains in future not to make their bottoms flat but oval. (5) To have the metal buckets at the public wells connected with chains running over pulleys or attached to counter-weighted lifters to facilitate the drawing of water. Also to strictly prohibit the indiscriminate dipping of vessels into the wells. (6) To provide a small Ranigunge pipe or pot ring well in the outlying part of village Khirgaon. (7) To properly carry on the dry earth system in the public latrines. (8) To require the methers to live close to the latrines, and to employ the methranies to attend to these places when their husbands are away. (9) To gradually provide more public latrines at convenient places, of course separate ones for the two sexes. (10) To introduce Part IX of the Municipal Act. (11) To consider the advisability of borrowing or acquiring smaller pieces of land near the different public latrines for trenching night-soil. (12) To gradually give effect to such of the recommendations made under the head of conservancy in the previous report as have not yet been attended to. (13) To provide, as funds permit, a few good pucca or corrugated iron sheds to the municipal market. (14) To construct in the burning ground a shelter shed for those bringing bodies for cremation. (15) To actively push on vaccination and place the town in a state of proper protection. (16) To continue to take interest and try to obtain as much accuracy in registration as possible.

Ranchi Town.—*Inspected in December 1887.*—I visited Ranchi in company with the Vice Chairman, Baboo Saroda Kumar Aikath, and was very sorry to see that little had been done to improve its sanitation during the two years that had elapsed since last I had been here. The water-supply arrangements were not what they should be, while those under the head of conservancy were in some respects still very defective. In fact, with the exception of roads, no other branches of sanitation appeared to have received proper attention at the

hands of the Commissioners whose indifference to carry out the improvements that had been repeatedly urged in former reports was most unfortunate. Much, it seemed, had yet to be effected to put the town on a satisfactory sanitary footing.

The suggestions were :— (1) To do all to gradually remove the existing defects and carry out permanent sanitary improvements. (2) To construct one or two good roads through the lower part of Gudri Bazar and Chamar Tola, particular attention being paid to open up these unhealthy localities as much as possible. (3) To gradually convert the kutchra drains into pucca saucer-shaped ones, the drains in the crowded localities receiving this attention first. (4) Wherever the drains are made pucca to require all householders to do their part of the duty and have all house-drains made pucca, and joined to the former, the use of half Ranigunge drain-pipes for this purpose being encouraged as much as possible. (5) To have the masonry around the mouths of the two wells in the public market thoroughly repaired, and to see that their drains are not blocked with rubbish. (6) To renew the wooden frame-work over the wells that require it. (7) To make the conservancy establishment keep the surroundings of all wells scrupulously clean. (8) To consider the desirability of providing each public well with a metal vessel attached to a chain for raising water. (9) To construct some more properly protected pucca wells at places, such as the Mocheepara, the smaller municipal market, &c. (10) To require the people to have the mouths of the private wells properly protected from inward drainage. (11) To provide at convenient places good public latrines having corrugated iron walls standing on a pucca plinth of good masonry and cement. (12) To have the latrines for the two sexes quite apart from each other. (13) To provide proper receptacles for faeces, &c., in each cell of the public latrines, and to carry on the dry-earth system properly. (14) To provide more trenching grounds conveniently situated to the public latrines and the different parts of the town, and to adopt the system of shallow trenching, the trenches being dug in lines one foot deep and one foot wide, and only six inches of night-soil put into them, and the remainder filled with earth. (15) To put a stop to the irregularities noticed in connection with the administration of the Compulsory Vaccination Act. (16) To fully utilize the provisions of the Compulsory Registration Act, particularly the penal clauses, and to require the tax-collector and the overseer to report all births and deaths as a check over voluntary registration. (17) To induce the midwives to give information of all births which they attend, paying them a small fee for doing so, if funds permit.

Suri Town.—*Inspected in December 1887.*—I went round Suri with Mr. Grant, the District Engineer, and a Municipal Commissioner, and the Civil Medical Officer, both the Chairman, who is the District Magistrate, and the Vice-Chairman, who is the local Government Pleader, being absent from the station. Mr. Grant knew the town well, so apparently did the Civil Medical Officer, who had evidently given attention to certain insanitary places and conditions. The sanitary status of the municipality was almost the same, if not worse than before. The grave defects that were noticed on the last occasion were still met with—the result of maladministration of the Commissioners, who had acted in the face of the advice given them in the matter. The arrangements under the heads of drainage, water-supply and conservancy were as bad and unsatisfactory as they could possibly be, and yet the suggestions offered in the last Inspection Report to improve them had been absolutely ignored. In fact, the whole administration of the municipality appeared to be a complete failure in all sanitary concerns, and was being carried on in a manner that can only bring municipal self-government into discredit.

The suggestions were :—

(1) To take interest in municipal affairs and devote as much money as possible to remedy the serious defects that still exist under the several heads of sanitation. (2) To satisfactorily administer the sanitary clauses of the Municipal Act. (3) To make every endeavour to gradually get rid of all filthy holes and excavations. (4) To consider the expediency of acquiring one or two hollows in central positions, digging them out into good serviceable tanks, and reserving them for drinking only, the spare earth being utilized in filling up neighbouring pits and holes; also to induce the rich owners of pits to treat some of them similarly. (5) To no longer permit the drains to be covered over, and to take steps to remove all pucca erections over side-drains which have been erected since 1867. (6) To make some arrangements for flushing the pucca drains at regular intervals, the water for the purpose being raised from some of the conveniently situated tanks by means of native basket lifters of water. (7) To keep the kutchra drains free to act, and to strictly prohibit the throwing of rubbish into them; also, in clearing them out, to see that the debris is placed not on their sides, but on the road, and thence removed by the conservancy carts. (8) To remove all trees from the banks of the tanks that have been reserved for drinking purposes. (9) In selecting a new site for a well, to make an experimental boring to find out whether good water is procurable there. (10) In place of one or two large masonry ones, to construct cheap and numerous small wells, using Raniganj drain pipes of suitable size instead of the ordinary earthen well-rings. (11) To give effect to the suggestions offered under the head of conservancy in the last Inspection Report, and to make proper arrangements for the regular removal and effectual disposal of all house-refuse, sewage, night-soil, &c. (12) To no longer allow the Compulsory Vaccination Act to remain a dead letter, but to fully utilize its provisions, and do all that is necessary to put the town in a proper state of protection. (13) To carry out the recommendations made under the head of registration in the last Inspection Report, and to adopt measures generally to place registration of births and deaths, which is now in an extremely backward state, on a satisfactory footing.

R. LIDDERDALE, M.D.,

OFFICE OF THE SANIT. COMM. FOR BENGAL, }

The 15th April 1888.

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

APPENDIX No. VI.

**STATEMENT SHOWING THE SANITARY CONDITION OF THE
VILLAGES IN EACH REGISTERING CIRCLE IN BENGAL.
AND THE MORTALITY FROM SMALL-POX, FEVER,
CHOLERA AND BOWEL-COMPLAINTS,
DURING THE YEAR 1887.**

Statement showing the sanitary condition of the villages in each Registering Circle in Bengal and the ratios of Deaths from Small-pox, Fever, Cholera and Bowel-complaints therein, during the year 1887.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—			
		Population.	Small-pox.	Fever.	Cholera.	Howel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Burdwan	Burdwan—Town	84,080	92	13.11	1.90	2.43	Drainage is defective. The flow of water and sub-soil drainage have been interfered with. The drains originally destined to discharge into the river now drain into tanks and hollows, which have no outlets. The main drains are deep and defective in levels. The smaller drains do not admit of being finished out, and consequently smell unpleasantly in the dry weather. The house drains are not connected with the roadside drains.	The town possesses an admirable system of water-works, but it is confined to its northern division, and has not yet been extended to the southern, where the water-supply is taken from very filthy tanks and the highly polluted Banks river. Even in the northern division the supply is inadequate, and no connection with the water-works are insufficient. The tanks in this division are now used for bathing, but they are very filthy. There are also in the town one protected public well and numerous private ones, in a more or less bad condition, which are used for all purposes.	The conservancy arrangements are on the whole satisfactory. Surface cleansing is well attended to, but the bye-lanes are not swept often enough. There is an excellent set of public latrines, 10 in number, but the scheme has not been extended to the whole town. There are no public urinals. The private latrines in the localities where the public ones are under very satisfactory municipal management. This system also calls for extension. Promiscuous defecation is still permitted. There are no well-privies. The night-soil is properly trenched, and portions of the trenched ground are cultivated with good results. Fluid kitchen refuse is not satisfactorily removed. There are many tanks or water-holes and pits about the town which form filthy cess-pools. The superintending establishment requires to be strengthened and better officered. The arrangements connected with the disposal of the dead and markets and slaughter-houses are open to improvement.
	Burdwan—Rural	27,380	.....	19.17	4.7	3.8	Drainage of most of the villages is defective..	Is taken from tanks which are used promiscuously, and defiled more or less in other ways; but the tanks which are situated outside the villages generally contain good water. Where there are rivers their water is used, but low castes throw their dead into them.	The pathways between the houses abound in superfluous vegetation and filth. The drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle, the growth of which is encouraged in order to hide the females more effectually from public view.
	Culna—Town	10,901	.....	10.73	2.1	2.38	The drainage is defective. Only the northern part of the town has been supplied with pucca drains.	Is taken from the river and from the large municipal tank.	Surface cleansing is attended to. There are no public latrines. The night-soil and fluid refuse from the private privies are buried in waste land away from habitations. Interment within compounds of houses is occasionally allowed.
	Culna—Rural	81,533	.....	16.35	7.9	4.9	Drainage of most of the villages is defective	Is taken from tanks which are used promiscuously, and are otherwise more or less polluted. Those of the tanks which are situated outside of the villages contain potable water generally. Where there are rivers their water is used. On the whole the water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a dirty condition. Some houses are surrounded by jungle which is resorted to for defecation. No conservancy arrangements.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF -

District.	Name of Circle.	RATIO OF DEATHS FROM - PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Burdwan	Amensole - Rural ...	.....	19'37	'33	'23	The villages are situated on elevated ground and the drainage is free.	Water is taken from tanks and depressions in which rain water collects. Many of the tanks are large and good.	No conservancy arrangements. Fields and waste lands are resorted to for defecation. Refuse and excreta are collected in pits and excavations till required for manure.
	Sahibganj - Rural ...	.....	14'42	'25	'22	Drainage flows into fields, tanks and rivers ..	Is taken from tanks and rivers. The quality of the water is not good. The tanks have silted and are choked with weeds.	The villages consist chiefly of mud houses and huts built in rows and crowded together. There are no roads in the villages. No conservancy. Tank sides, as well as waste lands surrounding houses, are resorted to for defecation.
	Baniganj - Town ..	.....	12'25	3'20	5'21	The natural drainage is good, the low-lying being situated on a sloping laterite soil. But the drains are ill-constructed and badly levelled, and as a rule empty themselves into tanks.	Is taken from tanks and wells, but is not adequate. The single municipal tank and five other unprotected private ones have been reserved for drinking purposes. Four of the wells have also been protected. On the whole the water-supply is impure.	Conservancy arrangements are not well carried out. The sweepings, &c., are removed by contract, but very incompletely. Heaps of rubbish are to be found behind many houses on the backs of tanks, &c. The cattle-sheds are filthy, and the dung, &c., are collected in the premises and only removed on compulsion.
	Baniganj - Rural ...	.....	11'50	'12	'15	The natural drainage of these villages that are situated on elevated ground is good, but the drainage of the low-lying villages is very defective.	Is taken from the river Damuda and from tanks. The former and most of the latter afford a good supply. The water of wells is also used.	The houses are generally neat, clean and dry, but in many villages are ill-ventilated and crowded. No conservancy. Defecation is carried on in jungles and waste lands, and refuse and crowding are collected on footpaths.
	Khandoghose - Rural.	.....	15'33	'83	'07	Drainage flows into fields, tanks and rivers ...	The riparian villages obtain their water-supply from the Damuda, Bent and Adjal, while the villages in the interior obtain their supply of water from tanks.	No conservancy arrangements. Heaps of manure rubbish are to be found more or less in every village.
	Boyna - Rural ...	.....	12'22	'09	'37	Drainage generally is imperfect. Some of the villages, however, are situated on elevated ground, and are dry.	Is taken from tanks which are used promiscuously, and are otherwise more or less polluted. Those of the tanks which are situated outside of the villages contain potable water generally. Where there are rivers their water is used. On the whole the water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The pathways and drains are in a filthy condition. Some houses are surrounded with jungle which is resorted to for defecation. No conservancy arrangements.
	Gangoor or Saigachia - Rural.	70	14'38	'14	'28	Drainage flows into fields, tanks and rivers ...	Is taken from tanks, ponds and excavations. Some of the first are large and very good; the ponds are generally choked up, but their water is used only for culinary purposes. In general tanks situated outside of villages contain good water, but being at a distance are not frequently resorted to. The tanks in the villages are systematically polluted by women.	In some villages the houses are crowded together, ill-ventilated, and surrounded by trees or bamboo clumps. No conservancy arrangements. Defecation is carried on in jungles and waste lands, and in some places on roads footpaths and banks of tanks. Pigs serve as scavengers, but in a great measure contributing to the nuisance themselves. Cremation and interment are carried on in places near tanks. Heaps of refuse and manure are to be met with everywhere. Cattle are kept inside dwelling-houses.

Selimabad—Rural...	71,709	.....	16-36	'11	'80	Drainage flows into fields, tanks and rivers	Is taken from tanks, a few of which are large and good. The water-supply here is similar to that in Culna rural.	No conservancy arrangement. Defecation is carried on in jungles and waste lands. Many villages are full of jungle and trees.
Ausgram—Rural ..	97,311	.....	16-70	'20	'19	The drainage flows into fields, tanks and rivers.	The inhabitants of the riparian villages use river water, while those of the villages in the interior resort to tanks for their water-supply.	No conservancy arrangements. Heaps of house-refuse and rubbish are to be seen in every village.
Ketugram—Rural...	73,723	....	16-88	'80	'01	The country is low-lying and marshy. Some of the villages are flooded every year by the rivers Ajoy and Damouda. The drainage is defective.	Is taken from tanks, ponds and excavations. Some of the tanks are large and very good, but most of these unfortunately are situated so far from the villages that they are not often resorted to. The tanks in or near the villages are polluted by women. River water is also used to some extent.	The houses are ill-ventilated, but they are kept dry and clean. No conservancy arrangements. This places in the matter of domestic cleansing is like Gangoor rural.
Mongulkote—Rural	73,543	.....	17-67	'61	'19	Drainage flows into rivers and tanks	Is taken from tanks and from rivers	No conservancy arrangements. Heaps of manure and rubbish in every village.
Kutwa—Rural ..	82,943	'01	14-63	'16	'33	Drainage flows into rivers and tanks	Is taken from tanks and ponds which are systematically polluted by women. River water is also used.	Many of the houses are devoid of ventilation, but they are kept clean and dry. No conservancy arrangements. This place in the matter of domestic cleansing is like Gangoor rural.
Kaksa—Rural ..	88,989	'12	20-54	'16	'33	The villages are situated on high ground and are dry.	Is taken from tanks, bunds and rivers. The quality of the water of the tanks is not good, as none of them have been reserved for drinking purposes.	Domestic cleansing is observed, but no conservancy arrangements. Defecation is carried on in jungle and waste lands.
Montesaut—Rural	63,033	.....	14-40	'14	'53	Drainage flows into the bunds and depressions	Is taken from tanks and ponds. Some of the tanks contain good water, particularly those in the outskirts, but as these are at some distance off, they are not generally resorted to. The tanks in the villages are much polluted, especially by women, who anoint themselves with oil and turmeric just before getting into the water to bathe. The ponds are also used for culinary purposes. River water is also used for drinking purposes.	The houses are ill-ventilated, but are kept clean and dry. Some villages are clean, but in some sweeping, crowding and other refuse heaps are to be seen. Defecation is carried on in fields, but in some places the roads and footpaths, the nearest jungle, or banks of tanks are resorted to for the purpose. Pigs act as scavengers, but they contribute to the nuisance themselves.
Bood-Bood—Rural	79,073	.....	18-23	'35	'13	Drainage flows into fields, tanks and rivers	Is taken from tanks, which are used promiscuously and are otherwise more or less polluted. Those of the tanks which are situated outside of the villages contain potable water generally. Where there are rivers their water is used. On the whole water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. Some houses are surrounded with jungle which is resorted to for defecation. No conservancy arrangements.
Purbasthali—Rural	82,070	.....	19-37	'26	'04	Drainage flows into rivers, khals, bears and tanks.	The river Bhagirathi supplies water to the riparian villages. The villages in the interior obtain their water-supply from bins and baors.	No conservancy arrangements. Heaps of manure rubbish are to be seen in every village.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANTITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—	
		Small-pox.	Rever.	Cholera.	Bowel-com-plaints.	Drainage.	Water-supply.
							Domestic cleansing.
Bankura	Bankura—Town	13,747	6.61	1.01	1.70	The natural drainage is excellent. The fall is towards the north and south into the rivers. The public drains discharge into the fields and the house-drains are generally connected with them. Encroachments on and obstructions to drains are not allowed.	Is taken generally from the river Dhalkisor and is good, as it is filtered through a bed of sand; but during the rains organic matter and refuse are washed into the rivers. There are also numerous tanks, but the water in them is so bad that it is not fit for drinking purposes.
	Bankura—Rural	108,804	12.33	.08	..	The drainage is defective. The land is low and marshy.	Water-supply is taken chiefly from tanks and wells, neither of which are free from pollution and contamination, as they are not protected by pucca parapets against receiving surface drainage, and their surroundings are also filthy.
	Bishanpur—Town	31,233	7.32	.98	.68	The natural drainage is good, as the town is situated on elevated ground. The rain water is discharged through drains into the fields. House-drains and encroachments on and obstructions to public drains are looked after.	Is taken from tanks, which are numerous and contain good water, but none of them has been reserved for drinking purposes only.
	Bishanpur—Rural	119,595	14.69	.51	.21	Drainage is defective. The country is low-lying and marshy.	Is taken from tanks, of which a few only contain good water. Generally they receive surface drainage, are full of weeds and vegetation, choked up, and used for all purposes.
Sonamukhi	Sonamukhi—Town	13,616	8.16	.23	.39	Drainage is defective. The drains flow first in a northerly direction and then finally discharge themselves into the river Salie.	Is taken from tanks, which are numerous and contain good water, but only three of them have been reserved for drinking purposes. This small number of reserved tanks for a large place like Sonamukhi is not enough.
	Sonamukhi—Rural	67,400	10.10	.08	.33	Drainage is defective	Domestic cleansing is on the whole fairly well attended to.
						Domestic cleanliness is not at all observed. The condition of the compounds, the fronts and backs and corners of the houses are all shockingly filthy.	

Gungahatti- Rural.	172,607	.....	11-40	'34	'35	Drainage is defective and obstructed. The ground is low and marshy.	Is taken from tanks and water-courses. The tanks receive impurities of all description, and their banks are defiled. The water-courses are similarly polluted, and carcasses are thrown into them, and when dry, their beds are used for defecation.	The sanitary condition of the villages is bad. Domestic cleanliness is not at all observed.
Onda-Rural	119,321	.....	9-38	'28	'35	Drainage is defective. The ground is low-lying and marshy.	Is taken from tanks and wells as well as from khals and rivulets. These sources of water-supply are unfortunately rarely free from pollution and contamination, as they are not protected from surface drainage entering into them.	The houses are ill-ventilated. The habits of the people are filthy. There are no conservancy arrangements, and filth is accumulated everywhere.
Kotalpur-Town	.....	.....	.....	.....	.....	The drainage is defective	Is taken from tanks and wells which are not above suspicion.	Domestic cleansing is pretty good. The roads and pathways are mostly pucca and in good order, and are kept clean.
Kotalpur-Rural	94,964	.....	19-08	'32	'14	There are no drains, but the natural drainage is good.	Is taken chiefly from tanks which are numerous in this thana, and in general contain good and sufficient water; but cremation is carried on on the banks of some of them. In some places, however, the tanks are very bad, overgrown with weeds, &c., and they dry up in the hot weather when water is scarce. In some villages khal water is used.	In some places, particularly in village Moimapur, the houses are kept clean, but in general they are filthy, specially their surroundings, and are here and there crowded together. No conservancy arrangements. People defecate in jungles. Pits full of cowdung, refuse, &c., are numerous on roads, backs of houses, &c. In some places the cowdung, &c., are thrown out through a hole in the back wall of the cowshed to collect out-side.
Indas-Rural	78,909	.....	13-67	'22	'19	Drainage is fairly effective, but the ground is low-lying and marshy.	Is taken from tanks, and is generally sufficient and good.	The habits of the people are generally clean, and the houses are well ventilated, and their surroundings kept free of filth to a great extent. But instances of filthiness are not rare, an instance being Ulapara, where a collection of refuse almost touching the thatched roof of a house was seen. The dead are buried close to tanks and dwelling-houses. Jungle abounds.
Soprol or Khatra-Rural.	99,122	.....	9-55	'12	'50	The villages are situated on elevated ground, and the natural drainage is consequently good.	The rivers Kassi and Silai supply water to several villages, and tanks and wells to the remaining villages of this thana. The quality of the water is not good, and the quantity is not always sufficient.	The houses are dark and not well ventilated. Manure pits and heaps are found more or less in all villages. Defecation is carried on in fields and jungles, and on the road and tank sides.
Balpur-Rural	95,592	.....	11-14	'18	'37	The country is undulating, and the drainage free. The paths act as drains for rain-water.	Is taken from tanks and wells and from rivers in villages situated on the banks of current rivers. The quality of the water is not good, nor is the quantity always sufficient; the tanks have become silted up and choked with weeds.	The houses are in general ill-ventilated. Manure pits and heaps of house-refuse are to be seen in almost all the villages. Defecation is carried on in fields and jungles, and on the sides of the tanks and roads.
Simlipal-Rural	32,682	.. ..	10-18	'36	'15	The villages are situated on elevated ground, and the natural drainage is good.	Is taken from tanks and wells. The quality of the water is not good. The tanks, as a rule, are used by the people promiscuously. None of them are specially reserved for drinking purposes. The wells are also not properly protected by pucca parapets.	The houses are without proper ventilation. No conservancy arrangements. Refuses of all description are found more or less in all villages. Defecation is carried on in fields and jungles, and on the sides of roads and tanks.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM — PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF —		
			Small-pox.	Fever.	Cholera.	Dysentery.	Drainage.	Water-supply.	Domestic cleansing.
Birbham	Suri—Town ...	7,848	...	318	'12	'50	The drainage generally is defective. Many of the drains empty themselves into tanks scattered throughout the town. The main outlet drain of the town when last seen was silted up with sand and rubbish, and had been allowed to remain in this condition since last rainy season.	The general water-supply of the town is of the very worst description, any supply of a tolerably good character being limited to a tank and a well in the kitchen compound. There are many private tanks, but most of them are overhung by trees and bushes, which must throw down immense quantities of leaves to rot in the water and thus render it impure.	Surface cleansing is attended to, and the sweepings, &c., removed out of town. There are only three public latrines, which, however, are not much resorted to, the people preferring the fields and other convenient places. Private privies are numerous. They are cleaned by public mehters, but the night-soil from them is thrown on a spot outside the municipality to fester and dry up there; that from the public latrines is put into a small trench, but not covered over with earth, as it should be.
	Suri—Rural ...	118,891	.....	23 30	'48	'10	Most of the villages are situated on elevated ground and are dry. The country is undulating and the drainage free.	Is taken from tanks and wells, and from the river Maunakshi and Kana nadi in villages close to the river banks. The tanks are badly used, and the people defecate on their sides. On the whole the quality of the water is not good.	The people are very dirty in their habits, particularly the Sadgopes. Cattle excreta, refuse, and sweepings lie everywhere. Some of the villages are covered with rank vegetation, and the ditches are filthy.
	Dubrajpur—Rural	126,566	.....	16 20	'22	'10	Drainage is bad; in some places water-borging occurs during the rains.	Is taken from many choked and silted-up tanks. In places it is naturally good, but allowed to become bad. In a few places it is clean and good.	Domestic cleanliness is not observed, particularly in villages inhabited by Sadgopes and Mahomedans. With the exception of village Hetampore, the sanitary condition of the rest of the villages of this thana is bad.
	Rampur Hat—Rural	87,774	.....	16-33	'87	'23	Most of the villages are situated on high ground, and the drainage is pretty free.	Is taken from tanks the water of which, though naturally wholesome, is allowed to get overgrown with vegetable products.	The people are of clean habits but there are no conservancy arrangements, and crowding is to be seen in heaps before houses.
	Bolpur—Rural ...	107,833	.....	23-71	'66	'30	The natural drainage is good, the villages being situated on elevated ground.	Is chiefly taken from tanks which are charged with lime. The people also take their water-supply from natural water-courses called kundus, which exist in this thana.	There are no conservancy arrangements. People defecate in fields and gardens; in fact anywhere and everywhere.
	Sakulpur—Rural ...	122,723	.....	21-71	'25	'15	Drainage is bad in places, causing rain-water to stagnate.	Is taken from tanks and ponds: the latter are highly polluted, and the former contain decayed vegetable matter and are fouled by defecation. In the dry season water is scarce. Some of the tanks whose beds are of lime-stones contain wholesome water.	The houses are ill-ventilated. No conservancy arrangements. Defecation is carried on in fields and gardens. Crowding is accumulated in pits for manure. Some of the villages are full of excavations and hollows containing stagnant water. Sweepings, refuse and cattle litter are collected before dwellings.
	Monteowar—Rural	86,536	.....	19-32	'65	'09	Drainage is very defective. During the rains the footpaths become altogether impassable with water, which lasts till the end of October.	Is taken from tanks which are overgrown with vegetation. Some of these tanks, however, contain wholesome water.	No conservancy arrangements. The people defecate in fields and jungles. Cremation is carried on on the banks of the Dowarka river.

Nihati, including Pals-Bural.	133,897	.....	1773	'36	'07	Some of the villages are situated on high and some on low ground: the drainage of the former is pretty free, but that of the latter is very defective.	Is taken from tanks, some of which are good, some bad, and some choked up with weeds, &c. Water-supply is also taken from ponds and nullids which are generally filthy. When the tanks dry up there is a great scarcity of water.	Some of the houses are crowded together. There are no conservancy arrangements. Manure and rubbish heaps are to be met with everywhere. Defecation is carried on in fields and jungles, and on the road and tank sides.
Midnapur—Town	33,560	.....	7'03	'95	4'46	The drainage, although not very bad, is still defective. The pucca drains are generally obstructed, and the kutcha ones are defective in level. The cleansing of the drains is not properly attended to.	Is taken from the river Cossye, as well as from tanks and wells. None of the tanks have been reserved for drinking purposes, and on the whole the water in them is not good. The wells are for the most part protected, although not sufficiently, and yield fairly potable water. A good and sufficient water-supply is the chief want of this town.	Surface cleansing is attended to, and the sweepings, filth and night-soil disposed of in the usual manner. There are public and private latrines and urinals, and more of the former are to be provided. The private privies are cleaned by Municipal men, but the night-soil is not completely removed and properly trenched; there are numerous foul pits, tanks and water holes; and cattle dung is stored for manure within house premises. The arrangements for the disposal of the dead are not quite satisfactory.
Midnapur—Rural	123,546	.....	17'94	'47	'34	Drainage flows into fields and tanks, and is defective.	The Cossye River water is used where obtainable. There are many ponds, but they contain foul water. Tank water is also used, but its quality is bad. There is a general want of good water-supply.	Domestic cleansing is on the whole good, but there are no conservancy arrangements.
Ghatal—Town	12,038	.....	7'99	'31	1'31	Drainage is defective, but the drains are maintained in fairly good order.	The people of the riparian villages obtain their water-supply from the river Silai, and those far from it use tank water, the quality of which is not good, as none of the tanks has been reserved for drinking purposes.	Surface cleansing is attended to. There are 10 public latrines which are cleaned twice a day, but they are insufficient. The night-soil from them and the private privies is removed and buried outside the town. Cossips exist. Burials within the compounds of houses is carried on.
Ghatal—Rural	71,455	.....	12'79	'19	'48	Drainage is defective. It flows into khals, bails, and swamps.	Is taken from tanks which are generally bad and in places insufficient. In some places, however, there are good tanks with pucca chais, exclusively reserved for drinking. Separate tanks are used for other purposes.	Domestic cleansing is fairly well attended to, but the houses are ill-ventilated and there are no conservancy arrangements. Defecation is indiscriminately carried on. Cow-sheds are not kept clean. The pathways are filthy. Sweepings and refuse are generally accumulated for manure close to houses. In some places cremation is carried on on the banks of tanks.
Chunderkha—Town	12,257	.....	12'04	3'53	4'56	The drainage of the town is for the most part effective. The roadside drains are in a good state of repair and not obstructed.	There is no scarcity of water in the town, which abounds in tanks and ponds, but they are all without any exception, full of weeds, sedges and other aquatic vegetation, and receive surface drainage. Not one of the tanks is reserved for drinking purposes. A supply of good wholesome water is greatly felt in this town.	The houses are ill-ventilated. Only a few loop-holes on the wall are to be seen, scarcely admitting sufficient light and free ventilation. Domestic cleanliness is observed almost everywhere, though there is still plenty of room for improvement. There are no public latrines. Defecation is carried on in fields, jungles, waste lands, bamboo tops and banks of unused tanks. There is no fixed place for cremation, which is carried on in several spots of ground in different localities. The people complain of the close proximity of the burial-ground to their dwellings.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

DISTRICT.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Ever.	Cholera.	Bowel-complaints.				
Midnapur	Chunderkouna— <i>Rural</i>	...	1914	'68	149	58,510	Drainage is free	Is taken, generally from tanks which are, as a rule, of the worst description. The people of the Tripuran villages, however, obtain their water-supply from the river Silai. Ponds exist in places, but their water is not used for drinking purposes, as it is very dirty. In some places there are wells provided with pucca parapets, but generally they are unprovided with this protection.	The houses are not properly ventilated, and their surroundings are filthy, but their floors are leaped with cowdung. There are no roads and no conservancy arrangements. Fields and jungles are used by the people as latrines. Carcasses are thrown on vagars or waste lands.
	Ranajibunpur— <i>Town</i>	.....	1210	'64	149	10,909	The drainage is not thoroughly effective. The Tarsuli streamlet runs on the eastern side of the town, about a mile distant from it, and it receives most of the drainage of the town and its different bustees. Water is not allowed to accumulate, and no pathways are under water in any part of the town or bustees.	Is chiefly taken from tanks, of which there are scores, but only a few are large and really good. None of the tanks has, however, been reserved for drinking purposes. On the whole a want of pure and wholesome water is much felt in this town.	The dwelling-houses are without windows or ventilators. Their basement is generally not very high, nor perfectly dry. Domestic cleaning is observed more or less throughout the town. There are no public latrines, but a few private ones. The majority of people resort to fields and jungles for defecation. Carcasses are thrown on waste lands and vagars. Cremation is carried on near the bank of Tarsuli khal. The Mahomedans bury their dead near their dwelling-houses, either in mango or bamboo tops or in waste lands.
	Tumuk— <i>Rural</i>	'01	1218	217	237	80,049	There is no drainage	Is from tanks and the river Rupurain, the water of which is not very wholesome.	Domestic cleansing is pretty fairly attended to, but there are no roads and no conservancy arrangements.
Midnapur	Muslandpur— <i>Rural</i>	'02	1390	203	383	80,560	Drainage is very defective	Is from tanks and wells. Pure drinking water is very scarce.	Domestic cleansing is on the whole fairly well attended to, but there are no conservancy arrangements.
	Kherpai— <i>Town</i>	.....	1715	'35	301	6,295	Drainage is on the whole fair. The drainage of the south-western portion of the town is effected by means of nullas which empty themselves into the Ketia khal on the south-west, whereas that of the north-eastern portion is towards fields, whence the water escapes into the Kharunathpore khal. The existing bridges and culverts are in good order, but the side-drains require much attention.	Is chiefly taken from tanks which are very numerous in this town. The majority of them, however, are mere small ponds full of sedges, weeds, paunas, and other aquatic plants, and receive surface drainage. There are a few good dighies (big tanks) but these too are not entirely free from weeds, &c. Almost all the tanks are used for miscellaneous purposes, and are thus open to worst forms of pollution. Some of them require to be re-dug, properly protected from pollution, and reserved solely for drinking.	The houses with some exception are kutcha, and consist of mud walls and thatched roofs. They are badly ventilated, and their floors are generally low and rather damp. The courtyards are kept fairly clean, but the surroundings of the premises are often dirty. General conservancy is almost nil, there being only one mether. There are no public latrines. Promiscuous defecation is therefore very great here. The dead are either buried or buried in grounds set apart for the purpose; burials being, however, also carried on by the Mahomedans near their dwellings.
	Tumuk— <i>Rural</i>	'01	1213	217	267	80,049	The drainage flows into the Ronderger khal which drains the water of the villages.	Is taken from tanks, ponds and dighas. There is, however, not a single good tank. Scarcity of good drinking water is much felt.	Houses are built on slightly elevated ground. They are kutcha and ill-ventilated, but their surroundings are not very dirty. Cow-sheds are separate and clean. No conservancy arrangement exists. People defecate under bamboo, tops and jungles. Carcasses are thrown into fields. Carpses are burnt in waste lands.

Muslandpur—Rural	80,569	'02	13'20	2'03	3'88	There is no drainage system. The natural drainage flows into fields, khals, pits and excavations.	Is taken from tanks small ponds, and excavations. There is no good tank, and although the supply of water is not insufficient, the want of good drinking water is felt.	Houses are badly built of mud walls and thatched roofs. They are small, without windows and scattered. Their floors are low, but dry. The courtyards of houses are kept pretty clean. There are no roads, but footpaths, which are in a bad condition. Cow-sheds are separate from dwelling-houses and are kept pretty clean. No conservancy arrangements exist. Bamboo topes, foot-paths and waste places are used as latrines. Dead cattle are thrown into fields. Cremation and burial arrangements same as in other rural tracts.
Contai—Rural	130,554	'007	14'79	3'16	2'20	Most of the villages are situated in the midst of fields, and a few on the banks of rivers. The drainage from the former cannot but be more or less defective, while that from the latter is fairly efficient.	Is taken from tanks and ponds which, with few exceptions, are open to the worst forms of pollution.	Same as in Raghunathpur thana described above, with this exception, that the cattle-sheds are in some places large, open, and clean.
Gurbetta—Rural	135,786	.....	13'49	'45	'91	Same as in thana Keshpur described below ...	Same as in thana Keshpur, with this exception, that here water is in some cases obtained from the river Seelye instead of from the rivers Kubai and Domi, which do not flow in this thana.	Same as in thana Keshpur, with this exception, that the cattle-sheds are in some villages pretty clean.
Narangrath—Rural	129,109	.....	18'42	1'51	1'44	Drainage is very defective, and is seriously interfered with by holes and ditches which abound in the villages. The village foot-paths, which are mostly in a bad state of repair, serve the purposes of drains. Some places become quite water-logged during the rainy season.	Is taken from tanks and sometimes from khals at some distance. The former are mere dops, and are in a very filthy state, and contain dirty unwholesome water. In fact the want of good water is more or less severely felt in almost all the villages in this thana. There is not a single good tank in any of the villages.	The dwelling-houses are mostly kutcha, with mud walls and low thatched roofs, and are utterly devoid of all means of ventilation. Their punths are generally low and damp. House surroundings are often dirty and full of jungles and bamboo topes. Conservancy inside the houses is pretty well attended to, but beyond that it is almost nil. The condition of the cow and cattle-sheds is generally bad. Manure pits and cowdung heaps and refuse accumulations within the premises are common.
Danton—Rural	128,44	.....	17'04	2'32	'99	Same as in Egra thana described below ...	Same as in Egra thana described below. Water is also obtained in some cases from the river Suburnarekha.	Same as in Egra thana described below, but here the cow and cattle-sheds are generally kept pretty clean.
Gopinullabpur—Rural	138,928	.....	16'35	'51	'74	Villages are low-lying and subject to inundation. Drainage is defective	Is taken from wells and the river Suburnarekha; the water of both is clear and good. There are no good tanks, and scarcity of water is felt in some villages.	Houses are kutcha and not crowded together. They have no windows, and are ill-ventilated. Their floors are dry and kept clean, but their surroundings are dirty. Some of the houses are built on raised mounds of earth for fear of floods. Kefusa, cowdung, &c., are accumulated near the houses. Cattle are housed separately, but close to the houses; their sheds are dirty. Roads are kutcha, narrow, and dirty. No conservancy arrangements exist. Defecation is carried on anywhere and everywhere. Dead cattle are thrown into jungles.
Jhargram—Rural	69,792	.....	11'49	'11	'78	Villages are situated amidst jungles and fields. The drainage flows into fields and is defective.	Is taken partly from wells and partly from tanks, ponds, and bandhis. In some villages there are no tanks at all, and only a well or two. The water of the wells is clean, but that of the tanks and ponds is dirty. The wells have no parapets. There is a great scarcity of good water in some villages.	Houses are badly constructed and ill-ventilated, and their surroundings are dirty. Sweepings, refuse, and cowdung, &c., are heaped near the houses. Cattle are housed separately, and the sheds are pretty clean. No conservancy arrangements exist. Defecation is carried on in jungles, waste lands, and near khals. Dead cattle are thrown into jungles and near khals. Cremation is carried on near jungles and khals.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of village.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
Midnapur	Balbani—Rural	53,617	15'40	'98	'93	53,617	There are no drains and the natural drainage is not efficient. The roads and foot-paths carry off some of the surface-water into the fields.	Is taken from Towal nuddi, wells, and springs. The wells are deep and have rudely-made stone parapets, which do not prevent surfaces drainage flowing into them. There is not a single good tank. In some villages the want of good water is much felt.	Houses are mostly built in rows. They are small, badly-constructed, and ill-ventilated, and their surroundings are dirty. Sweepings and refuse are kept in heaps near dwellings and road-sides. Cattle-sheds are separate, but close to houses. They are not generally clean. Cow-dung, &c., are heaped near them. Dead cattle are thrown into jungle and waste places. No conservancy arrangements exist. Defecation is carried on in jungles and waste places.
	Rinpur—Rural	90,704	13'90	'91	'93	90,704	Most of the villages are situated amidst fields and jungles. Drainage is very defective. Some of the villages are periodically inundated by the river Cossye overflowing its banks.	Is taken from the river Cossye, tanks, and wells. The river water is good. Tanks are small, shallow, and covered with weeds and aquatic plants. The wells are kutcha and without parapets, but their water is good.	Houses are kutcha, small, and without windows, and their surroundings are clean. Cow-sheds are separate and pretty clean. Heaps of cow-dung and other refuse are seen in some places. No conservancy arrangements exist. Promiscuous defecation is carried on. There are no good roads. Dead cattle are thrown by the river-side and into jungles. Dead bodies are burnt on the banks of the river Cossye or near jungles.
	Keshpur—Rural	95,699	15'87	'93	'94	95,699	Some villages are situated in the midst of fields and some on slightly higher level than the surrounding country. The drainage from the former is as a rule defective, while that from the latter is to some extent free. The rain water eventually drains into the fields, but there are no such things as nullas or bridges to carry it off quickly.	Is obtained from dobs, tanks, the Kuba nuddi, and the river Duni, and in some cases from wells. The dobs and the tanks are as a rule very foul, and many of them dry up during the summer. The want of a good water-supply is severely felt in some places.	With few exceptions, the houses are made of mud walls and thatched with straw, their plinths being generally low and damp. They are not crowded together, so there is ample room for external perfumation, but internal ventilation is very defective, there being no windows. The courtyards are usually kept clean, but the house surroundings are often very dirty. The cow and the cattle-sheds are not kept in the state in which they should be. Defecation is carried on in all convenient places. Cremation and burial arrangements same as in other rural tracts.
	Daspur—Rural	115,269	12'10	'93	1'42	115,269	Some villages are situated on elevated ground and some are low-lying. The drainage from the former is to some extent effective, but that from the latter, except in the case of a few individual houses, is very bad. The villages in this thana are moreover subject to inundations.	Is taken from the river Silai and from tanks and dobs which are almost numberless. The latter are, however, mostly filthy, being full of decomposing vegetation and polluted in every possible way. Many of them also dry up in the hot weather. The want of good drinking-water is more or less severely felt in most places removed from the river.	The houses are mostly kutcha with thatched roofs, and are built on raised grounds and sometimes on mounds of earth to guard against being washed away by inundations. Their surroundings are in several instances fairly free from dirt and house-refuse. The cow-sheds are generally small, but are apart from the houses and are kept somewhat clean. The people resort for defecation to maidans and waste lands and other convenient places. The Hindu dead are burnt on banks of tanks, khals, and rivers and on waste lands; the Mahomedans bury their dead either near their houses or at the outskirts of the village.
	Debra—Rural	70,126	21'46	'41	'93	70,126	The natural drainage of this thana flows into the rivers Cossye and Seelye, and also into tanks and dobs. There are no roadside drains.	Is taken chiefly from filthy tanks and dobs, and from the rivers Cossye and Seelye. The tanks and dobs are full of weeds and grass, and their water is impure. There being no good tanks, most of the villages, with the exception of the riparian ones, suffer from great scarcity of good drinking water.	Some of the houses are pucca, but the majority of them are kutcha. They are not crowded together. Their floors are raised and dry; but having no windows, they are ill-ventilated.

Sabong—Zawal	201,714	009	16-95	1-28	57	The same as in thana Daspur, with this exception, that instead of from the S-elye river, water is in some cases obtained from the river Kongsa beti and the Kapalschwari khal, the latter being full of rank weeds and grass.	The same as in thana Daspur, with this exception, that the house surroundings are often very dirty, the sweepings, dung all sorts of refuse matters being collected in and around the premises.
Panukurah—Zawal	142,051	007	15-93	1-35	1-49	Is on the whole effective owing to there being numerous irrigation channels which carry off the rain water either to the main canal or to the river Rupnarain. Most of the villages are, however, totally wanting in drains properly so called, the narrow foot-paths serving there as drains.	The houses are made of mud wala with low thatched roofs. In some villages the floors are raised and dry, but in the majority of cases they are low and damp. The dwellings are in many instances quite apart from each other, being separated by paddy-fields and waste lands. Domestic cleansing is fairly observed, but refuse matter is generally collected within the premises. The cow and cattle-sheds are often close to the houses, but are not kept clean. Sometimes both men and cattle are housed under the same roof. Defecation is carried on everywhere. The Hindu dead are cremated on banks of tanks or of the river, or on waste lands, or by the side of the canal embankment; while the Mahomedans bury their dead in places fixed for the purpose, generally at a little distance from the dwellings.
Suttahatta—Zawal	54,524	.....	12-86	2-74	4-44	Villages are low-lying and subject to inundations. Drainage is defective, and flows into fields, tanks and excavations.	Houses are kutcha with low and damp floors, and are not close to each other. They are, however, without windows, and are therefore badly ventilated. Their surroundings are clean, but refuse and cow-dung are in some instances collected near them. Cow-sheds are separate and clean. No conservancy arrangements exist. Dead cattle are thrown in waste lands called <i>cogars</i> . Defecation is carried on everywhere. Corpses are burnt in waste lands and near khals. Mahomedan dead are buried near houses in their own lands.
Nundigram—Zawal	121,895	01	16-76	2-55	2-70	Same as in Suttahatta thana described above	Same as in Suttahatta thana described above.
Rachunathpur—Zawal	63,124	.....	14-43	3-71	2-92	Most of the bustia or villages are situated in the midst of fields, and only some are on comparatively raised ground. The latter are fairly well drained, but not so the former. The village footpaths, as a rule, serve the purposes of drains.	The houses are mud-walled and thatched with straw, with generally low and rather damp floors. Owing to the absence of windows the rooms are badly ventilated and are dark, and generally emit a musty odour. The courtyards are kept pretty clean, but the compounds are very dirty, house-sweepings, garbage, &c., being invariably collected in them in heaps. The cow and the cattle-sheds are generally small and badly built, and are in close proximity to the dwelling-houses. They are often very filthy, but are in some places kept fairly clean. Defecation is carried on in all convenient places.
Egra—Zawal	63,417	.....	16-82	2-20	2-25	Drainage is very defective, and generally flows into the adjacent dohas and ponds.	The dwelling-houses are all kutcha and generally very small and ill-ventilated, with low thatched roofs and damp floors. They are in several instances quite apart from each other. The cow and cattle-sheds are generally close to them, and are dirty. The courtyards are kept fairly clean, but the house surroundings are often very filthy. Roadsides and other convenient places are resorted to by the people for defecation. Cremation is carried on on banks of tanks and khals and on waste lands.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—										
District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.					
Midnapur	Khajuri—Rural	...	24.59	3.99	1.87		42,126	Most of the bustis or villages are situated in the midst of fields, a few only being situated on comparatively raised ground. The latter are fairly well drained, but the former are not. The village footpaths, as a rule, serve the purposes of drains.	Is taken chiefly from small ponds most of which are full of decomposing vegetation, the water in them being dirty and of a brackish colour. There are very few good tanks, and the want of good drinking-water is severely felt in many places. The water of the river Bagda, being brackish, is not used for drinking.	Same as in Baghumathpur thana described above, with this exception, that the house surroundings and the cattle-sheds are not generally very dirty.
	Potaspur—Rural	.....	19.30	2.27	...		97,324	Most of the villages being lowlying, the drains set from them is not free, and is moreover much interfered with by the large number of holes and ponds with which the villages are studded, almost every person having at least one pond attached to his house. There are <i>eri</i> bunds or low embankments around some of the villages which retain water in the fields.	Is taken from dohas, tanks, and khals. The dohas and the tanks mostly contain dirty water, are full of <i>panasa</i> weeds and other aquatic plants, and are contaminated in every possible way. Most of them dry up in the hot weather when there is a great scarcity of water.	Same as in Baghumathpur thana described above.
	Bhagbanpur—Rural	.....	19.28	4.46	...		96,451	Same as in thana Potaspur described above ...	Same as in thana Potaspur described above, with this addition, that water-supply also taken from the river Kongsabati.	Same as in Baghumathpur thana described above.
Hughli	Hughli—Town	7.02	13.81	2.11	6.71		38,718	Drainage on the whole is very defective. The principal outlets of the main channel are defective. The drains, after running in opposite directions from the river along a winding course, discharge themselves into it.	In all places not within easy reach of the river Hughli the water-supply is deficient in quantity and of a bad quality. Only three tanks have been set apart for drinking; this number is quite inadequate to meet the local requirements. On the whole the water-supply of the municipality is deficient.	Surface cleansing is imperfectly attended to owing to the weak staff at present employed for the purpose. In places the surroundings of the houses are filthy. Accumulations of rubbish in corners and at the back of houses are common. There are 11 public latrines and about 80 per cent. of the inhabitants are said to have privies of their own. They are regularly attended to by municipal mehiars, and kept fairly clean and inoffensive. Promiscuous defecation is still very largely carried on. The night-soil from both public and private privies is daily removed and properly trenchd.
	Hughli—Rural	.....	41.41	7.11	6.17		8,427	The drainage flows towards fields, khals and the river Hughli.	Is taken from the river Hughli by people living in the riparian villages; those residing in the interior resort to tanks and wells for their water-supply.	Domestic cleansing is fairly well attended to, but there are no conservancy arrangements. Heaps of manure are to be found everywhere.
	Kotrung—Town	.....	8.17	2.28	3.43		5,747	The drainage flows in a westerly direction into fields, and thence into the Bally khai and Kether khai.	Is chiefly from the river Hughli. People living in the interior, however, use tank water, which is not always good.	There are no public latrines; a few privies exist which are cleaned by mehiars from Uterparah. Domestic cleansing is fairly attended to.
	Banberiah—Town	.....	15.64	2.41	2.56		7,031	Shallow drains have been cut for drainage which flows towards the river Hughli.	People living near the river Hughli drink river water, but those living in the interior use tank water, which is not always good.	Domestic cleansing is fairly well attended to. The arrangements connected with the disposal of the dead are satisfactory.

Jehanabad—Town...	10,507	.....	3'86	'19	'76	The drainage is very defective. The municipal drains are cleaned, but house drains are not attended to at all, and are in a bad condition.	Is from the river Hughli. The quality of the water is good.	Surface cleansing is not attended to. There are only two public latrines. The condition of the private privies is bad. Night-soil does not appear to be trenching. The arrangements in connection with the disposal of the dead are not satisfactory.
Jehanabad—Rural...	89,905	.....	11'41	'28	2'01	The drainages of these villages which are situated on raised ground is good, but that of the villages on low land is very defective.	People living in riparian villages use river water, but those living in the interior use tank water, the quality of which is not good.	The paths and drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle, the growth of which is encouraged in order to protect the females more effectually from public view.
Pulha or Banabehra—Rural...	46,173	.....	15'32	'64	1'43	Drainage is defective. (No further information has been furnished under this head.)	Is taken from the rivers Hughli and Saraswati and tanks. Most of the tanks contain foul water.	Domestic cleansing is pretty fair. No conservancy arrangements exist.
Belagur—Rural ...	46,218	.....	18'03	'72	1'43	Same as in Jehanabad rural described above ...	Same as in Jehanabad rural described above ...	Same as in Jehanabad rural described above.
Dhuniakbali—Rural	33,537	.....	18'75	'68	1'33	No proper drainage. The rain waters naturally collect in the ponds and adjoining paddy-fields.	Is chiefly from tanks the water of which is generally bad, as none of them is guarded against pollution.	The houses are neat and clean and well ventilated. No conservancy arrangements. The people resort to the fields and gardens for defecation. Domestic cleansing is observed.
Pandua—Rural ...	66,113	.....	20'03	'71	1'21	No proper drainage. The water from the villages during the rains collects in the neighbouring paddy-fields.	Is taken from two large, good drinking water tanks. There are about eight ponds, the water of which is used for culinary and washing purposes.	No conservancy arrangements. The general aspect of the villages is clean. The houses are ill-ventilated. The people resort to fields and gardens for defecation.
Khanakul—Rural...	133,300	'007	8'22	'30	3'59	Drainage flows into fields and dhils ...	Is taken from tanks and ponds. The former contain good water in some villages and bad in others. Water from Kana muddee and the Damuda river is also largely used.	The houses are neat and clean, but ill-ventilated. No conservancy arrangements. The people resort to fields, gardens and jungles for defecation.
Goghat—Rural ...	111,121	.....	19'48	'44	'66	There is no proper drainage in this thana. The rainwater naturally flows into the adjoining paddy-fields and ponds.	Is taken from tanks and ponds. The tanks contain good water, but owing to surface drainage finding its way into them, deposits of silt, and improper usage, they have become highly contaminated. The water of the ponds is used for culinary and other domestic purposes.	The houses are mud-walled with thatched roofs. Domestic cleansing is fairly observed by the people. The houses are neat, clean and dry, but they are not properly ventilated. Cows are kept in separate sheds, which are also kept clean. Cowdung is used as fuel after drying. Heaps of sweepings and ashes, &c., are to be seen in almost every village. People resort to fields and gardens for defecation. Hindus burn their dead on the banks of canals and tanks.
Serampur—Towns ...	86,466	.....	11'92	5'35	8'64	Drainage is defective; almost all the drains are kutcha and rather deep, and many of these as well as some pucca drains are obstructed. The condition of the house drains is unsatisfactory. A proper system of surface drains and the fling up of the many excavations are much needed.	Is taken from the river Hughli and tanks. The river is fouled in various ways. The tank water is not fit for use, none of them having been protected from pollution and set apart for drinking purposes.	The town is overgrown with jungle, which the owners of land are not required to keep down. It is full of <i>dobas</i> and old tanks, and the Commissioners notwithstanding permit the formation of new pits for brick-making and the construction of kutcha native houses. The Chairman of this Municipality, being a non-resident, takes no effective part in its administration. The municipal arrangements of this town as a specimen of local self-government is a failure. Surface cleansing is properly attended to. There are nine public latrines, but more are needed. Promiscuous defecation is largely carried on. The night-soil is trenching.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF —

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-com-plaints.			
Hughli	Serampur— <i>Bural</i> ...	15,573	.....	5.94	.....	69	Drainage flows towards bhis and swamps	Is taken from the river Hughli by the people living on its banks. People living in the interior obtain their supply of water from tanks most of which contain bad water.	Domestic cleansing is fair. No conservancy. House-refuse and other refuse matters are accumulated in heaps in front and at the back of houses. Defecation is promiscuous.
	Boidyabatti— <i>Toes</i>	14,718	.....	6.11	67	140	Drainage is not satisfactory. It flows westward through kucha drains into khals and fields, and ultimately into the river Hughli.	In taken chiefly from the river Hughli by the people living on its banks. In the interior the people drink tank water which is not good. The want of good drinking-water tanks is much felt.	Surface cleansing is fairly well attended to. There are four public latrines and two <i>dhagars</i> looked after by seven mehtars and one jemadar. Carcasses of dogs and cats are not thrown into the river. Night-soil is carried in wooden buckets and buried outside the town. The public latrines are most objectionably situated, viz. on the bank or edge of the river, and there is nothing to prevent the mehtars from throwing the night-soil into the river.
	Singhur or Boidyabatti— <i>Bural</i> .	59,184	.....	13.55	1.38	3	The drainage is defective in many places and the villages are liable to be flooded during the rains.	Is taken from tanks and ponds, and is also used for culinary and washing purposes. The quality of the water is not good, as it is polluted in various ways.	The houses are ill-ventilated. Some of the villages abound in jungles. Defecation is carried on in fields and gardens. No conservancy arrangements. The paths, drains and passages between the houses are in a filthy condition.
	Utterpara— <i>Toes</i> ...	5,510	..	4.53	1.91	580	Drainage is defective. Most of the drains are kutchas and require constant attention. The main drain passes through the Mukta mul-lah, and cannot be kept clean.	Is taken chiefly from the river Hughli. The people living at a distance from the river drink tank water which is not good.	Surface cleansing is not sufficiently attended to on account of inadequate establishment. Sweepings, &c., are utilized in filling up pits and hollows. Night-soil is buried outside of but near the town. There are many stagnant ponds and large excavations. The dead are buried in the compounds of houses.
	Haripal— <i>Bural</i> ...	84,983	...	12.53	1.42	180	Drainage flows into bhis and swamps. It is defective.	Is taken from tanks which are used promiscuously, and are more or less polluted. It is also taken from rivers where they run, but the dead are thrown into them. Tanks situated outside of villages generally contain potable water. In villages away from rivers the water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle, the growth of which is encouraged in order to protect the females more effectually from public view.
	Chunditola— <i>Bural</i>	84,867	.....	8.73	96	167	No proper drainage. During the rains the waters naturally flow to the Saraswati river.	Is taken from tanks. There are many tanks and ponds, but the water of the latter is only used for washing and culinary purposes.	The houses of the Hindus are properly ventilated, but those of the Mahomedans are not very clean. No conservancy arrangements. People defecate in fields and gardens.
	Krishnagore— <i>Bural</i>	55,107	.....	12.39	63	232	Drainage flows into fields, bhis and swamps. It is generally defective.	Is taken from the rivers Kana and Damodar and tanks. The quality of the water is on the whole bad.	Domestic cleansing is pretty fairly attended to. No conservancy arrangements.

Howrah-Town ...	90,815	13	6'57	3'24	3'74	Drainage is on the whole defective, and in one part of the town the same set of drains convey both sewage and storm water into the river Hughli at King's Road, south of the Salt Golahs. The discharge from the gas-works finds its way into the drains.	Is taken from the river Hughli and tanks. The water from these sources has been condemned, and a scheme for a filtered water-supply is under consideration.	The conservancy arrangements are on the whole satisfactory. Surface cleansing is efficiently performed, except in bustees. The public latrines and urinals are insufficient in number, and the southern portion of the town is without any of these conveniences. Promiscuous defecation is still carried on. There are numerous hollows containing stagnant water. The condition of the municipal market is unsatisfactory, and the numerous private ones are kept in a filthy condition. A scheme for the removal of night-soil by tramway is under consideration.
Ball-Town ...	14,815	6'36	3'77	3'30	Drainage is defective. It should be improved, especially in the low bustees on the station road. The drainage flows into the Ball khal in the north and into the western fields and railway cuttings on the south and west.	Is chiefly taken from the river Hughli, but tank water is drunk in the interior of Belloor. There are no good tanks.	Surface cleansing is attended to. There is one public latrine, but it is kept dirty, and jungle is allowed to grow just outside, and people sometimes defecate outside. The night-soil is removed and buried outside municipal limit.
Dumjoor including Santal-Zaral.	123,477	10'11	1'75	3'77	Drainage is not free. The water during the rains flow in to ponds, and the river Saraswati.	Is taken from tanks and rivers. There are numerous tanks and ponds, but their water is not good.	Domestic cleanliness is pretty fairly attended to. No conservancy arrangements. The people defecate in fields and gardens.
Oliberiah-Zaral.	81,345	11'05	1'20	3'35	Most of the villages in this thana are situated on elevated ground, and the drainage from them, as well as that from the villages situated on the banks of khals and the river Hughli, is fair. Bhils and swamps abound in this thana.	Canal water is largely used by people in its immediate vicinity. There are others, particularly the low class people, who freely use the water of a deep pit dug out to procure earth for building and manuring purposes; the water of this pit is extremely unwholesome.	Domestic cleansing is more or less observed by the people. No conservancy. Defecation is carried on in jungles and fields.
Jagatballabhpur-Zaral.	77,539	12'11	1'77	3'03	Drainage is defective and not free	Is taken from tanks on the Kana nudi, the water of the former is, with a very few exceptions, not fit to drink.	Domestic cleansing is pretty fairly attended to. There are no conservancy arrangements, and the road and tank sides are thickly covered with human excreta.
Amia-Zaral	109,968	11'02	'35	3'27	Drainage is defective	Is taken from tanks which are used promiscuously and are more or less polluted. Water is also drawn from rivers where they run, but the dead are thrown into them. Tanks situated outside of villages generally contain drinkable water, but in villages away from rivers the water supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungles, the growth of which is encouraged in order to protect the families more effectually from public view.
Bagnan-Zaral	63,563	9'58	2'20	3'61	No proper drainage. The waters during the rains flow into the ponds and fields.	Is taken from tanks and the rivers Damodar and Rupnarayan, the water of the former is not good.	Domestic cleansing is more or less observed. No conservancy arrangements. The people defecate in fields and gardens.
Syampur-Zaral	68,861	10'35	2'70	3'30	The drainage of villages situated on raised ground is free, but that of villages situated on low land is very defective.	Is taken from tanks which are used promiscuously and are more or less polluted. Also from rivers where they run, but dead bodies are occasionally thrown into the rivers.	No conservancy arrangements. The people defecate in fields and gardens.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
24-Pergunnahs	Suburbs of Calcutta	251,439	14.81	8.31	7.23		The drainage is very defective, and whatever has been done to improve it has been undertaken without any plan or design. The drains consist of excavations on the sides of the roads. They run anywhere and accumulate filth in different parts. Most of them discharge into certain main drains which lead either to Dhurpa, the Belachhatta canal, Jhils or the river; but they do not act during the rains, and submerge the fields. The drains require constant attention; and although a special establishment is entertained for this purpose, they are often neglected; a system of surface drains is urgently called for.	Is on the whole very unsatisfactory. It is taken from the river Huzbli. Tolly's nullah and tanks, divided into the interior belonging to private individuals are kept clean, but those in the densely-populated portions of the town are highly polluted and very filthy. Europeans and well-to-do natives who can afford to pay for it, obtain their water-supply from the Calcutta hydrants. It is contemplated to extend the Calcutta water-works scheme into those parts of the Suburbs which are proposed to be amalgamated with the Calcutta Municipality.	The work connected with surface cleansing and general conservancy is carried on by a contractor. It is executed unsatisfactorily, and the town is not on the whole in the cleanly condition desirable. There are 46 latrines, but only three of them are free to the people. A fee is levied for the use of the rest. The private privies are also under the care of the contractor, and instances are not rare in which both the public and private latrines are filthy and badly managed. The night-soil is trenched also by the contractor. Although much improvement has been effected in the business, there are still several which are deficient in all sanitary requirements, filth abounding everywhere. Of the butchers, those in which cattle are kept are the worst. Here dung litter, &c., are to be seen lying about in heaps festering under a hot sun. The burial arrangements are very unsatisfactory.
	South Suburban—Towns.	51,658	6.00	2.73	2.00		The drainage is pretty free. No lodgment of stagnant or putrid water in any of the drains is to be seen.	Is taken from tanks. There are five good tanks, but many others which are foul and overgrown with weeds and rank vegetation. The water of Tolly's Kulia and Kasarpooker khal is also drunk. The former is considerably fouled. The water-supply is insufficient.	Domestic cleanliness is observed throughout the town. Most of the habitations wear a neat, clean and comfortable appearance.
	Tollyganj—Rural ..	47,793	20.71	2.57	1.04		Drainage is defective. The drains are improperly levelled and the sewage of some flows into ponds, the water of which is used for culinary purposes.	Is taken from tanks most of which are filthy, and the water of some of them is said to be almost black.	No conservancy arrangements. The people defecate wherever they like. Sweepings and house refuse are collected in heaps in front and at the backs of houses.
	Angurpara or South Barrackpore—Towns	22,739	13.01	2.08	2.50		Drainage is fair. The Khurdiah and Titagar khals carry off the drainage to the river. In Natagore and Kohora the drainage chiefly flows in to the fields and tanks.	Is good in the riparian wards, but it is not good in the rural villages Ghola, Natagore, Kohora and Nona Chundupooker.	Surface cleansing is attended to, but not sufficiently owing to the inadequate establishment. There are no public latrines. Defecation is promiscuous.
	Nowabani or North Barrackpore—Towns.	18,013	14.09	2.10	3.88		Drainage is very defective. It should be improved, especially along the district road and in parts of Garulia and Nowabani, Ichapur and Nowabani.	Is taken from tanks and the river Hughli. There are many tanks with pucca ghats, but their water is not good.	Surface cleansing is fairly well attended to. There are two public latrines. The night-soil is removed and buried in a trenching ground. More public latrines are required—one at Monirampur, one at Nowabani, and one at Garulia, in order to keep the river bank, where defecation is carried on to a great extent, free and pure.
	Barrackpore including cantonment—Rural.	21,650	17.40	1.20	1.01		Drainage is defective	Is taken from the river Hughli and tanks. The quality of the water is on the whole bad.	Domestic cleansing is pretty good. No conservancy arrangements.

Bussirhat—Town ...	20,450	04	6'11	1'32	44	The drainage is defective	Is taken from tanks, the water of which is not fit to drink, as the tanks are not protected from pollution. River water is largely used.	The conservancy arrangements are defective. There is only one cart for the removal of refuse, and so surface cleansing is not efficiently done. There is only one public latrine, the night-soil of which is said to be buried in a chur.
Bussirhat—Rural ...	55,887	.....	20'20	2'54	08	There is an entire absence of drainage	Is chiefly from the rivers Jaboona and Biddi-churra and tanks which are full of weeds and very filthy. Most of the tanks dry up in April and May.	No conservancy arrangements. The villages are riddled with hollows and excavations full of filth and stagnant water. In many villages the dead are interred near houses.
North Suburban town or Burampore.	22,082	03	10'45	3'36	6'13	Drainage is now pretty good, but there is still room for much improvement. A survey has been made and levels taken.	Is taken from the river Huzhli and from tanks. It is abundant and fairly good.	Surface cleansing is attended to, and the street sweepings, &c., are deposited in appointed places, and in pits and hollows. The <i>basis</i> belonging to the jute mills are in a filthy and insanitary condition. There are 10 public latrines, but they belong to private individuals. The private privies are under municipal management. The night-soil is trenched.
Rajpur—Town ...	10,576	....	13'33	1'25	2'26	The drainage is good except in Banunpara, where there are no proper drains; there is a deep moat here called Dushanev's Gurh which interferes with the drainage.	All the wards have numerous tanks with pretty good water except the eastern part of the Kotolia, near the Chauripotta railway station. There are no municipal tanks, and none of the private tanks are specially reserved for drinking. Some of them might be so reserved with benefit.	Surface cleansing is attended to. No public latrines. There are several private privies in Rajpur and Harinai, but the night-soil from them is never removed, as Part IX of the Municipal Act, III of 1894, is not in force. There is a burning ghat in each ward for the cremation of the dead.
Sonarpur—Rural ...	31,538	.....	20'37	2'16	3'34	Drainage is almost absent in the villages, and what little there is is defective.	Is taken from tanks which contain pretty good water.	Domestic cleansing is fairly well attended to. No conservancy arrangements.
Naihatti—Town ...	21,533	.....	11'18	1'06	1'7	The drainage is good with the exception of Shamunpur and Halishohur wards, where it should be promoted by levelling and cutting drains to join the big drains in Halishohur.	The people living near the river Hughli drink its water, but those far away draw their water-supply from tanks the water of which is not good.	Surface cleansing is not attended to, as there are no scavenger's carts. At present there is only one public latrine in Naihatti on the south of the Naihatti ferry ghat. Defecation is promiscuous.
Naihatti—Rural ...	55,429	.....	21'10	1'10	1'38	Drainage is defective	Is taken from the river Suti and from tanks. The river, however, has silted up and contains stagnant water, which is full of decomposing weeds. In some places certain portions of the river have been converted into tanks by embankments placed across. Most of the tanks are old and shallow, and dry up in April and May.	No conservancy arrangements. Defecation is carried on in fields, gardens, tanks of rivers, and in jungles.
Baduria—Town ...	19,135	.....	5'57	0'58	3'7	Baduria and the riverside villages are drained into the river Jal-coona and Mookator khal; the drainage of other villages flows into beels. Drainage is on the whole fair.	Is from the river Jaboona and tanks. Supply abundant and quality fair. But the river is polluted by sweepings and garbage from the hat being thrown into it and people defecating on its bank.	Surface cleansing is attended to, but not efficiently for want of proper establishment. There is no public latrine in the bazar, where over 200 permanent shops exist, and where over 20,000 people assemble on hat days.
Baduria—Rural	104,606	009	21'20	4'8	3'34	Drainage is defective	The inhabitants of the villages which are situated on the banks of the Ichamunty river resort to that river for their water-supply, but the others have to depend on beels, baors, and dirty shallow tanks full of weeds. In the baors jute is steeped.	The dwellings are badly constructed, and as a rule are devoid of ventilation. The floors of the dwellings are generally kutcha, but are kept clean by sweeping them almost every morning with earth and cowdung.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS PROX.— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-com-plaints.				
24. Pergunnahs	Dum-Dum—Rural	81,578	18'36	2'24	2'00	...	Drainage is defective	The people take their drinking water from the Suti river and from tanks. The river has silted up and contains stagnant water, which is full of decomposing weeds and leaves from bamboo jungle along the banks. Most of the tanks are old and shallow, and dry up in April and May. The water of some is green in February.	No conservancy arrangements. Domestic cleansing is pretty fairly attended to. Defecation is carried on in fields and gardens.
	Baraset—Rural	73,151	18'75	7'1	3'9	...	Same as in Dum-Dum thana	Same as in Dum-Dum thana	Same as in Dum-Dum thana.
	Honabad and Takee—Rural.	67,237	16'79	4'92	95	...	Drainage is defective	Is taken from the river Itchamutti and from tanks. The water of the river is fit for drinking only in winter, as it becomes brackish in the hot and rainy seasons. There are, however, a few good tanks here and there. In some villages the people have to bring their drinking water from a distance of 7 or 8 miles. Water-supply on the whole very defective.	The dwelling-houses are ill-ventilated; their floors are generally kutcha, but are kept clean by smearing them almost every morning with earth and cowdung.
25. Pergunnahs	Barriepur—Rural	76,530	16'96	1'50	3'9	...	Villages are situated on high ground and surrounded by fields. The natural drainage is good and flows into fields, but the roadside drains are obstructed and full of jungle and noxious vegetation.	Is taken from tanks and ponds, some of which are due in the hot season. Very few of them are kept clean, and most of them are full of weeds and aquatic plants.	In some villages the houses are crowded together. No conservancy arrangements exist. Pathways, waste lands, and jungles are used as latrines. Dirty pits and excavations exist. Cremation is carried on in the burning ghāt, which is kept very dirty. Mahomedans inter their dead in the compounds of their houses.
	Diamond Harbour—Rural.	59,533	19'43	3'78	1'59	...	Some of the villages are on high and some on low ground. Drainage flows into the fields and khals.	Water-supply is taken from tanks only. The water of some of the tanks is good; others are full of weeds and pannas.	Most of the houses are kutcha and like huts. No conservancy arrangements exist. Roads, footpaths and sides of tanks are full of human excreta. Defecation is promiscuous. Excavations containing filthy water abound. Hindus cremate their dead on the banks of the river Hughli.
	Bistupur—Rural	71,717	12'03	2'46	2'39	...	Some of the villages are situated on elevated ground, and some are low-lying and surrounded by swampy paddy-fields. Drainage from the former is to some extent free, but that from the latter is more or less defective.	Water-supply is chiefly obtained from tanks, khals, and the river Hughli. The tanks generally receive surface drainage, and are often in a filthy state.	The houses mostly consist of mud walls with roofs thatched with straw or grass. The courtyards are kept clean, but the surroundings of the houses are often filthy. Defecation is carried on at convenient places during the dry season, but the sides of tanks and roads and high grounds are resorted to for the purpose during the rains, when the fields are under water. The Hindus burn their dead on banks of tanks and khals, and on waste lands, but the Mahomedan dead are usually buried in private lands near their houses.

Bhangor—Rural ...	78,852	.....	18'51	3'03	'40	Most of the villages are low-lying and are surrounded by swampy tracts of rice cultivation. Drainage from them is extremely defective. Many villages become water logged during the rains.	Water-supply is obtained from tanks, khals, and tidal creeks. The tanks are mostly small, and are covered with weeds and pannas, and are polluted by boiling, washing clothes, cattle, &c. The water of khals and creeks is generally brackish.	Personal cleanliness is observed by the people generally. The houses are neat and tidy, but ill-ventilated, and their surroundings are filthy. No conservancy arrangements exist. The sweepings and house and cow-shed refuse are heaped near houses until wanted for manure. Defecation takes place on the sides of khals and everywhere. The dead are often interred in and near houses.
Deyraunga—Rural ...	53,516	.....	23'17	2'42	'35	Drainage almost the same as in Habra thana described below.	Water-supply almost the same as in Habra thana; Scarcity of water is felt in some places in April and May, when the Pudma nuddi dries up.	Domestic cleansing almost the same as in Habra thana, with this exception that cremation is carried on on banks of tanks and khals and on waste lands.
Habra—Rural ...	76,428	'01	18'79	1'82	'29	Drainage is fairly effected from the villages that are situated on banks of rivers and khals. Most of the villages are, however, low-lying, and in them the drainage is very defective, being much interfered with by pits and hollows.	Water-supply is obtained from tanks, bhis, khals, Pudma nuddi, and the river Jamna. The tanks are mostly covered with weeds and sedges, and are open to all sorts of pollution.	With few exceptions the houses are kutchas and consist of mud walls with small holes in many instances for ventilation. The roofs are thatched with straw. House surroundings are often very filthy. No conservancy arrangements exist. The Hindus generally carry their dead to the banks of Hukhli for cremation, while the Mohammedan dead are usually buried close to their houses.
Harwa—Rural ...	49,322	'08	17'14	4'74	'52	The country is full of swamps and khals, and numerous pits, hollows, and excavations which receive the drainage.	Water-supply is taken from tanks, most of which are full of weeds and contain decomposing vegetation with branches of trees overhanging them.	Houses are made of mud walls and thatched with straw and are not provided with sufficient windows. They are surrounded by fields. There is much dense jungle in the country which gives shelter to tigers. No conservancy arrangements exist. Defecation is carried on anywhere. Jute is extensively steeped in the road-side cuttings. Pits, hollows and excavations containing filthy water abound.
Joynagar—Town ...	Not available.							
Joynagar—Rural ...	76,140	.....	12'43	3'50	'34			
Atchipur—Rural ...	62,536	...	13'67	'63	'39			
Canning—Rural ...	47,519	.....	13'51	8'69	'35			
Saltanpur or Kulpi—Rural.	90,319	.....	15'42	4'91	'43			
Devipur—Rural ...	43,455	...	11'36	2'50	'23			
Bankipur—Rural ..	107,275	'09	11'21	5'45	'87			
Mathurapur—Rural	50,453	.....	17'10	4'49	'11			

Particulars regarding the sanitary condition of these thanas are not yet available.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					Drainage.	Water-supply.	Domestic cleansing.
		Population.	Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Nuddea	Krishnagpur—Town	27,477	.....	14.37	'72	'80	The general drainage is imperfect, water being detained in holes and depressions, instead of being carried away.	Is not sufficient. It is taken from the river Jalangi, 51 tanks, and 27 pucca wells. Three tanks have been set apart for drinking purposes. All the wells are protected.	Domestic cleansing unsatisfactory, rubbish not being brought out for removal and collected here and there in heaps in corners. There are 17 public latrines, the night-soil from which is daily removed and buried in trenching grounds. Defecation is carried on on the banks of tanks and lowlands and in drains, &c.
	Kishnagpur—Rural	77,887	.....	21.40	1.91	'03	Drainage is to rivers, bhis, and khals. The villages are flooded more or less during the rains.	Is taken from the river Jalangi and Hughli bhis, tanks and wells.	Houses are kutcha and pucca, and kept fairly clean. No conservancy.
	Santipur—Town	20,687	.....	9.80	1.34	.....	Drainage is defective. It should be improved by constructing more pucca drains with proper falls. A good beginning has, however, been made.	The people drink river water as a rule from Baur and Hurypore khal and Nyger, but people residing far away use tank water.	Surface cleansing is fairly well attended to. No public latrines. Well-privies abound. Defecation is carried on promiscuously.
	Santipur—Rural	24,177	.....	27.09	1.71	'73	Drainage is pretty fair, and there is a long jole which serves the purposes of a drain.	Is taken from rivers and tanks. Most of the tanks are in a bad state of sanitation with pans, grass and weeds. The quality of the water on the whole is very bad.	The dwellings are badly constructed without proper ventilation. The floors of dwellings are generally kept clean by smearing them every morning with earth and cowdung. In the main pathways accumulations of rubbish, &c., are to be seen.
	Kushtea—Town	9,717	.....	5.96	'92	'92	Drainage is defective. Kushtea being high is not easily flooded, though the drains falling into the river are flushed back by flood water which passes through and submerges low lands before passing into the fields. There are four or five such drains, and one is large and passes through Arowpara and Jolligara thal, which has been blocked by the railway line, and the drain diverted south on to kutcherry. The drainage should be improved by representing to the railway officials the blocks made by them.	Is taken chiefly from the river Gori. Water collected by means of dams is also used, but as cattle are washed in it, it is not fit for drinking.	Surface cleansing is not attended to. There is one public latrine and about 25 private privies, the night-soil of which is removed and buried in the municipal trenching ground.
Banaghat	Kushtea—Rural	17,788	.....	24.88	1.12	.....	The drainage is pretty fair, and there is a long jole which serves the purposes of a drain.	Is obtained from rivers, bhis and tanks. The bhis contain good water. The tanks with the exception of a few, are in a bad condition, unprotected from surface drainage, muddy and full of pans and decaying vegetation.	The houses are crowded together in several villages. They are kept tolerably clean, and their floors are free from damp; but rubbish, litter and other refuse are accumulated in the main pathways. Bamboo clumps and much jungle and rank vegetation abound.
	Banaghat Town	8,683	.....	4.26	'48	'09	Drainage is defective	The water-supply is abundant in quantity and fair in quality. The river Churni is the principal source. Tanks supply water to the villages in the interior. There are three municipal tanks, but none of them is reserved for drinking.	Surface cleansing is attended to. There are no public latrines, but privies of the worst kind, viz. well-privies, abound, which are never cleaned. The people defecate on the roadides and jungle for want of public latrines, and thus pollute the air and soil.

Banaghat Rural ...	75,733	'01	24'41	1'03	'14	There are no drains. The ditches are obstructed by sweepings and other refuse.	Is generally taken from tanks and bhils. The tanks are covered with <i>pana</i> (<i>pitia stratiotes</i>) and other weeds, and are contaminated by washing of clothes and cattle, by refuse thrown on their sides, by defecation around and about them, and in other ways.	The houses are free from ground damp. Domestic cleansing is regulated by the social status of the people, but the houses of the Gwallas and Mochhis are generally unclean. The Mahomedans also do not, as a rule, care for conservancy or cleanliness. In several villages sweepings and other refuse are thrown and accumulated on the pathways and passages. Defecation around dwellings and in the beds and on the banks of rivers is common.
Meherpur—Town ...	5,731	.....	13'61	.....	1'22	Only the roads are provided with culverts and waterways. There are, however, kutcha shallow surface channels, but they are obstructed near houses.	Is taken from the river Bhyrub, one municipal tank, and four or five private tanks and wells. The municipal tank is surrounded by a raised mound, and a watch is set over it to protect it from pollution; but the other tanks are full of decomposing vegetation, and their water is bad.	The town is surrounded with jungle, particularly in Shaikpara. No arrangements have been made for surface cleansings, and yet the roads are free from filth, because the inhabitants have been made to throw all the house-refuse, &c., into the hollows within their premises. There are no public latrines.
Meherpur—Rural	65,954	.....	23'83	1'37	.....	The natural drainage is pretty free, and it's out-fall is into the Bhyrub and Khorra rivers, but many villages get water-logged during the rains.	Is taken from the Bhyrub, Howli and Khorra rivers, and from bhils, khals, and dolas. There are very few tanks. The Bhyrub is covered with <i>patikochari</i> , <i>patashvoti</i> and other vegetation. Nevertheless its water is clean and wholesome.	In general the houses are constructed of the usual materials, but those on the borders of the rivers are built of frail and inflammable materials. Jungle abounds in many villages, though much of it has been cleared by the indigo planters. Domestic cleansing is somewhat better cared for than is generally the case in rural villages. Sweepings and refuse are utilized in filling up hollows in the homesteads, and consequently unhealthy excavations are comparatively few in this thana.
Norodip—Town ...	14,105	.....	6'02	'42	'40	Drainage is very defective, the place being surrounded by an embankment unprovided with sluice gates. There is no means of discharging any excess of rain-water into the river or Pottar khal.	The people drink the Bhagrutti river or khal water where they can get it. Those far away from the river use tank water. When the river recedes and the khal dries up, the people use well water for all domestic purposes.	Surface cleansing is attended to. Sweepings and other refuse are used for filling up pits. There are no public latrines, but temporary latrines are opened during the <i>meta</i> time. There are four <i>metas</i> or fairs held in Novodip at different seasons. The well-to-do people have well-privies which have not been cleaned for years. The poor resort to waste lands and jungles for defecation.
Kumarkhali—Rural	99,247	...	15'78	1'79	'21	The natural drainage is defective, the ground slope towards the rivers being insufficient. There are no side-drains to the roads, and several villages are water-logged.	Is had from the rivers Pudma and Goral and from bhils, dolas, and wells. Tanks are rare.	The houses are scattered. The floors of the houses are very damp, and domestic cleansing is very little attended to.
Chagdah—Town ...	Not available.	.....	.....	.....	.....	Drainage of the villages on the river bank flows into the river, and that of the villages in the interior into fields and Ukoondo bhil. Holes and excavations and small ponds abound and interfere with the drainage of the town.	Is taken from the river Hughli in riparian villages, and from tanks and wells in the rest. There is one municipal tank near the bazar; water fair. There are several choked-up and dirty tanks and ponds the water of which is adequate in quantity, but bad in quality.	The arrangements under this head are very bad. There are no public latrines. The well-to-do have well-privies, some of which are full to the brim. The majority of the people resort for defecation to the fields, gardens, waste lands, sides of tanks, and khals, &c.
Chagdah—Rural	64,620	'03	25'25	'30	'17	The natural drainage is not sufficiently free, and there are no drains by the sides of the roads.	Is taken from the rivers Hughli bhils, khals, and tanks. The tanks are covered with <i>pana</i> and other weeds, and are contaminated by washing of clothes and cattle, by refuse thrown on their sides, by defecation around and about them, and in other ways.	The houses are not crowded together, but are ill ventilated. They and their surroundings are kept in a filthy condition. Jungle abounds in several villages. Conservancy is little cared for. Sweepings and other refuse lie about.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.	
		Population.	Mmell-pox.	Typhoid.	Cholera.				Bowel-com-plaints.
Madras	Jaguli—Rural	39,306	.....	27-82	1-90	'13	The drainage flows into bhis and khals. The villages are flooded when there is an unusual quantity of rain.	Is taken from the river Joboma bhis, and tanks. The quality of the water is not good. A great scarcity of water is sometimes felt in many villages.	Domestic cleansing is more or less observed by the people. No conservancy arrangements. Road sides, fields, and waste lands are resorted to for defecation.
	Chudanga—Rural	31,818	.....	19-75	'50	'32	Natural drainage is defective, and consequently surface water cannot be carried off quickly and lies stagnant, and soaks into the soil about the houses.	Is taken from wells and tanks. Some difficulty is felt in summer, when the tanks dry up. Villages on the banks of the rivers, khals, or bhis obtain their water-supply from them. The banks of rivers are used as latrines; the bhis dry up causing scarcity of water; and the wells are contaminated by surface pollution.	No conservancy arrangements. Domestic cleansing is not cared for. Defecation in and about some villages is common. Cowdung is heaped up or kept in pits, emitting a disgusting odour. Jute is steeped in hollows and tanks in the midst of habitations. In some villages dead bodies are buried in dwelling-houses.
	Hanskhali—Rural	45,340	.....	20-11	1-43	..	Some of the villages are on high ground; some level with the surrounding ground; some are surrounded by stagnant bhis and swamps. Natural drainage is defective, and consequently surface water cannot be carried off sufficiently, and lies stagnant, and soaks into the soil about the houses.	Is taken from tanks, some of which are in a bad condition, and from streams. In some villages there are ponds which dry up in summer when wells are dug.	Conservancy is not satisfactory. The people resort for defecation to fields and waste lands, but away from habitations. The dead are buried in the compounds of houses.
	Kishanganj—Rural	52,701	.....	16-17	1-77	'03	Some of the villages are situated on high and some on low land. Drainage is pretty free on the whole.	Is taken from streams, tanks, wells, khals, and bhis. All of the tanks are shallow, silted up, covered with rank vegetation, and their banks are used for defecation; some dry up in the hot weather. The wells and bhis contain good water, but some of the latter are polluted with weeds. Some of the khals have silted up.	Some of the villages are open and free, but many are surrounded with jungle and bamboo clumps. In some rank vegetation and stagnant water holes abound. House-sweepings, refuse, &c., are accumulated. Here and there cowdung is used for fuel. The Goralia bustis are very filthy. The pauper dead are generally thrown into the river Churnab.
	Chapra—Rural	65,509	.....	17-54	3-27	'07	The villages are situated on a low level, and are consequently liable to floods. Many of the villages are badly drained. The embankment of the Kuli khal obstructs the drainage of the villages in its neighbourhood.	Is taken from the rivers Ichamutty and Churni, and from bhis and khals. Tanks are very rare.	The houses are scattered and widely apart from each other, and many are enclosed with hedges. Domestic cleansing, with few exceptions, fairly well attended to, but household refuse is not properly disposed of. Hollows, containing vegetable, animal impurities and stagnant water, manure pits and dung heaps, are to be met with.
	Nakaspura—Rural	50,763	.....	25-76	1-07	.....	The villages are situated on a low level, and are therefore subject to floods. The drainage is defective, the ground having no slope for the carrying off of storm-water.	Is taken from the Khorja river and from bhis, khals, and tanks. The rivers and khals are polluted by defecation. Most of the tanks have silted up.	The houses are not crowded together, but are defective in internal ventilation. They and their surroundings are kept in a filthy condition. Jungle-abounds in many villages. Conservancy is little cared for.
	Kaliganj—Rural	54,162	.....	19-54	'22	'07	Drainage is pretty free. The outfall is into the Ganges.	Is obtained from the river Bhagirathi, and from bhis, khals, baors, and tanks. The bhis and tanks are covered with weeds and vegetation, and a few have silted up, and most of them dry up in summer.	The houses are not crowded together, but are ill-ventilated. They and their surroundings are kept in a filthy condition. Jungle-abounds in several villages. Conservancy is little cared for. Cattle, emitting unpleasant odours, exist; sweepings, cattle litter and every other refuse lie about.

Tehatta—Rural ...	89,169	.....	20'12	'83	'01	The houses are, as a rule, built on raised ground, the natural drainage is therefore good.	Is taken from the Bhyrub and Khoris rivers, and the Peerpur and Abrah bhis. Wells are few and tanks rare. The bhis dry up in the spring. The water in hollows is also used for drinking purposes.	Domestic cleansing is determined by the caste and habits of the people. There are many hollows and ditches surrounded with bamboos, and several of them contain fecus. The bhis generally and the roads are similarly defiled.
Kureempur—Rural	102,754	'009	26'04	'44	'27	This thana is situated on a low level, and is therefore subject to floods.	Is obtained chiefly from the Bhyrub, the Hornagan khal, the Dhanbali bhi, which is the tail end of Bhyrub, the Chatia bhi, and joles. Tanks and wells are very rare. The bhis and khals have silted up, and are covered with vegetation, and the joles are filthy.	In general the houses are constructed of the usual materials; but those on the borders of the rivers are built of frail and inflammable materials. Domestic cleansing is somewhat better cared for than is generally the case in rural villages. The sweepings and refuse are utilised in filling up hollows.
Gaugui—Rural ...	74,953	'14	23'48	'20	1'04	The natural drainage, which flows into the Bhyrub river and a jole, is pretty free, but some villages are water-logged.	Is taken from the rivers Bhyrub, Ichamutti, and Howli, and from dobas and tanks. The tanks are very few, and are polluted in many ways. The Bhyrub and Ichamutti have silted up to a great extent, and the tanks of the former are used as a public latrine.	The houses are not crowded together, but are deficient in internal ventilation. Their floors and walls, which are kept with earth, are damp. Jungle exists in the villages along the Bhyrub river.
Dowlutpur—Rural	74,178	.....	26'73	'33	'06	Drainage flows into rivers and bhis ...	The river Matabhanga and Ganers and bhis with tanks and wells supply drinking-water.	Domestic cleansing is pretty good. No conservancy.
Nowpara—Rural ..	136,713	'607	24'32	2'48	'09	Drainage of the villages on elevated land is pretty free, but those situated on either side of the rail road is being obstructed by it.	Is taken from tanks and railway excavations, the water of which is very unwholesome.	No roads. Sweepings and house-refuse are gathered in front of houses. Jungle abounds in many villages.
Bhaluka—Rural ...	41,928	'07	22'15	6'08	'35	Drainage is free in some villages, but it is defective in the rest.	Is obtained from rivers Gorai, Kaligunga and Doka nadi and tanks.	No roads. Covered with jungles of bamboo and other rank vegetation. Burials take place in the precincts of dwelling-houses.
Bhadulia—Rural ...	65,154	.....	20'09	4'50	'07	The drainage is pretty free ...	Is taken from the river Bhagirathi, Nijhone khal, the Khalsas, bhi and tanks, which are numerous. The khal is full of dal grass and moss. The bhi contains good water.	The houses are crowded together in several villages. They are kept tolerably clean, and their floors are free from damp, but rubbish, litter and other refuse are accumulated in the main pathways.
Alamdanga—Rural	59,947	.....	20'50	1'52	.....	Drainage is tolerably free on the whole; but Althoria, Gopaldanga, and Sindurakoti are not well-drained, and many villages are water-logged, especially the chur villages.	Is taken from the river Howli, the Bhantrre mudi, Chahla bhi and from tanks. There are only a few wells. The mudi having no connection with any water-course, is rapidly polluted, and its water becomes unwholesome during the dry season. The bhi is rendered unwholesome from decomposing vegetation. The tanks have silted up, and are covered with moss, weeds and other vegetation.	The houses are built widely apart from each other, and their floors are not damp. The villages are, with few exceptions, pretty free from jungle, but bamboo clumps are plentiful in the villages along the Howli river. Heaps of sweepings and refuse are to be met with. Defecation on the pathways, passages, the sides of tanks, and in the dry bed of the river Howli is common. On the whole, however, domestic cleansing is fairly well attended to.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
Nuddea	Damurhuda—Rural	...	19-17	2-3	'44	63,014	The natural drainage is pretty free, but the Howli embankment retards drainage of rain water. The Naljore Jole is a sort of outlet for the drainage of the villages situated about it. The cart tracks in the villages serve the purposes of drains.	Is taken from the river Howli, bhils and wells. Tanks are rare. The bhil behind Dudhatia has deteriorated, and its water is unfit for drinking. The best well is at Parmanpur. In the same village there is a zamindari tank which has silted up, and contains water rendered unwholesome from decaying vegetation.	The houses are not crowded together, but are deficient in internal ventilation. Bamboo clumps, overhanging hollows and pathways, abundant, and rank vegetation, luxuriant from excessive rainfall, is common. Busti cleansing is not properly attended to, and the gowalla bustis are invariably the most filthy. There is no arrangement for the removal of household sweeping, refuse and litter, which are thrown anywhere or accumulated on pathways.
	Kalnul—Rural	...	31-22	9-10	...	38,308	The drainage is defective. Rain-water stagnates on the village pathways, being obstructed in its outflow, particularly at Akhandaberia and Chandpur. A jole on the west of Saralberia serves the purposes of a drain, and there is also much water-logging.	Is obtained chiefly from the river Ichamutty and its offshoots, from bhils, the jole at Saralberia, and from a few tanks. The Ichamutty is almost dry in summer, and is covered with weeds and noxious plants. The water of the bhils is impure during the dry season, and the Bhoynub bhil at Akhandaberia is subject to contamination in various ways. The tanks have silted up.	The houses are not crowded together, but they are wanting in interior ventilation. Bamboo clumps, overhanging hollows and pathways, abundant, and rank vegetation is common. Busti cleansing is not properly attended to, and the gowalla bustis are invariably the most filthy. There is no arrangement for the removal of household sweepings, refuse and litter, which are thrown anywhere or accumulated on pathways. Defecation is carried on on the public pathways, which are also bestrewn with cattle bones.
	Jibunnagar—Rural	...	19-24	1-64	'02	40,129	Drainage is defective in some parts. The drain in Jhumria has been obstructed with silt deposits, and is covered with luxuriant vegetation, and this village and Andulberia and Hajridia are water-logged.	Is had from the river Bhoynub, khals, bhils, bandhas, joles, and tanks. The water of the river is discolored at spring time owing to its mouth having been obstructed by the railroad at Joyannagar, where the bridge is too small to admit of free flow of water. The bhils are used as public latrines and in other objectionable ways.	The houses are not crowded together, but are deficient in internal ventilation. Jungle is rare, except at Bajridia. Domestic cleansing is fairly attended to. Defecation is carried on in the village passages, on the Ramnagar road, and amidst the bamboo clumps at Dehati. The mode of keeping cattle generally is objectionable.
Murshidabad	Berhampur—Town	...	16-64	'21	1-94	23,605	Drainage is defective. The main outlet drain beginning near the Civil Court is already almost choked up with jungle. This in a very few years, if allowed to continue, will completely block the outflow of water. Many of the pucca drains in Berhampur and Khagra require to be remodelled.	Is taken from the river Bhagirathi, tanks, and wells. One tank and three wells have been protected from pollution and reserved for drinking purposes.	Domestic cleansing is fairly well attended to by the people. Street sweepings are daily removed and properly disposed of, but the fluid refuse is not similarly treated. There are 11 public latrines, but they are not sufficient. These and some of the private privies are kept clean by the municipal mehtars.
	Sujanj—Rural	...	29-23	'11	'11	8,345	Drainage flows into fields and bhils. It is very defective.	Is taken from the river Bhagirathi, bhils, and tanks. The quality of the water is generally bad.	Domestic cleansing is more or less observed. No conservancy arrangements. The people defecate in jungles, waste lands, and fields. House refuse and other refuse matters are to be seen in almost every village accumulated in heaps in front or at the back of houses.

Gorabazar— <i>Baral</i> ...	12,688	..	29-13	23	07	Drainage flows into fields and bhils ..	Is taken from the river Bhagiruthi, bhils, and tanks. The quality of the water is generally bad.	Domestic cleansing is pretty good, but there are no conservancy arrangements. The people defecate in jungles, waste lands, and fields.
City Murshidabad— <i>Town</i> .	39,331	.....	31-25	01	354	Although much has been done to improve the drainage of this town, much still remains to be done before it can be considered efficiently drained. In Azimganj the outfall is not good. A good outlet is required, and the present pucca outfall requires to be extended so as to remove the block of filth in the dry season further from the houses beside which it accumulates.	Is taken from the river Bhagiruthi, tanks, and wells. One of the tanks and two of the wells are reserved for drinking purposes. The private tanks are in fair condition, and arrangements exist for replenishing several of them with river water. The private wells are more or less protected from pollution, but they are chiefly used for washing purposes.	Domestic cleansing is fairly well attended to. The houses are swept and washed morning and evening. There are, however, many sanitary defects badly disposed of rubbish, insufficient removal of night-soil, intra-mural burial, filthy reservoirs, and inefficient privy accommodation for females, children, &c. Till improvement in all these matters is effected, the town cannot be considered to be in a good sanitary condition.
Shahanagar— <i>Rural</i>	9,323	.....	29-92	.....	10	Same as in Assanpur thana described below ..	Same as in Assanpur thana described below ..	Same as in Assanpur thana described below.
Assanpur— <i>Rural</i> ..	11,177	.....	33-01	26	35	Drainage is to fields and khals. It is generally defective.	Is taken from the river Bhagiruthi and from tanks. In the dry season there is a scarcity of water.	Domestic cleansing is fairly well attended to. The houses are crowded together. No conservancy arrangements.
Manilla bazar— <i>Rural</i> .	1,979	30	40-42	50	.....	Same as in Assanpur thana described above...	Same as in Assanpur thana described above ..	Same as in Assanpur thana described above.
Kandi— <i>Town</i> ..	10,661	.....	15-19	85	112	The town is drained by the river Mourakhi, and the nulla that passes through it. The drainage is pretty free.	Is taken from tanks and from the river Mourakhi. The quality of the water is said to be pretty good.	Surface cleansing is tolerably well attended to by the people themselves. The municipal authorities simply look after the populous and bazar portion of the town. There are six public latrines (three for males and three for females), and two more are in course of construction. There are few private privies, which are cleaned at the owners' cost. The night-soil from public and private latrines is either buried or thrown into the fields. The arrangements, under the head "Disposal of the Dead" are satisfactory.
Kandi— <i>Baral</i> ..	79,659	.....	17-14	28	10	The natural drainage of some of the villages, particularly those situated on elevated ground, is good, but it is very defective in the villages that are situated on low land. The side-drains are non-effective, deficient in outfall, and levels, obstructed and waterlogged in places.	Is taken from the rivers Mourakhi, and from tanks and bhils. The water of the former is said to be good, but that of the latter is polluted in various ways.	Domestic cleansing is, more or less observed by the people. No conservancy arrangements exist in any village. Cattle dung is utilised, partly for fuel, and partly for manure. Defecation on the roads and pathways and on the banks of tanks is very common. The Hindus burn their dead on the banks of the Mourakhi river, but there is no fixed burial-ground for the interment of the Muhammadan dead.
Jungipur— <i>Town</i> ..	10,187	09	13-93	40	912	Some of the roads have pucca drains, which discharge chiefly into the river Bhagiruthi. In Jungipur there is a large central excavation called Luckhiole, which receives much of the local drainage and is a source of great nuisance.	Is taken from the river Bhagiruthi the Koles, and Karkari creeks, and from tanks and wells.	Surface cleansing is fairly well attended to. There are two public latrines, one in Kughunathganj, and the other in Jungipur; both of them are kept pretty clean.

SANITARY ESTIMATES OF VILLAGES IN EACH CIRCLE UNDER THE HEAD OF—

SANITARY ESTIMATES OF VILLAGES IN EACH CIRCLE UNDER THE HEAD OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					Drainage.	Water supply.	Domestic clearance.
			Small-pox.	Fever.	Cholera.	Bowel-com.	Plagues.			
Murshidabad	Rughunathganj— Rural.	57,369	.....	25.05	'06	'10		Most of the villages are liable to inundation. The village Radhanagar has been entirely engulfed by the encroachment of the river Bhagirathi. Thoroughfares are wanting in many large villages. Water-logging is not very common. Drainage is pretty good.	Is taken from the Bhagirathi, river, and from the Shabesh and Aranga bails. Tanks are few, and are generally polluted. There is, however, one good tank in Barachuni, and a hollow in Faridpur has been enlarged into a tank. Water difficulty is experienced in the dry season.	The villages are generally open and airy, but those situated near the river Bhagirathi are surrounded with jungle. Bamboo clumps are rare. The conservancy arrangements are bad. The banks of the rivers and the pathways are resorted to for defecation, and there are unhealthy hollows amidst habitations. Bones of cattle are also to be met with on waste lands and in gardens.
	Dewansera—Rural	55,036	....	35.41	1.43	'75		Rain-water is pretty well drained into the Bhayrub river through joles, but at Sreemantapur the drainage is bad.	Is taken from the river Bhayrub, a bail, three tanks, joles and wells. The Bhayrub, the only water-course in the thana, is deep, and flows throughout the year, but it is polluted in several ways. Defecation is also carried on on its banks. The Rajah's tank in Sreemantapur is in a good condition, and is guarded against pollution. A tank in Rangoria, which was excavated and fenced some three years ago, contains good water. There is a scarcity of good drinking water in this thana during the hot season.	The dwelling-houses are made of mats, straw, bamboo, reeds, &c. No conservancy arrangements exist in any village. Jungles and bamboo clumps abound in some of the villages. Defecation in hollows is very common; the gowala busis are very filthy; there are decomposing cattle-dung pits in Sreemantapur and Beitunga; and the gardens in Bonapara are covered with kachhini shells and human feces.
	Barwa—Rural	67,912	.....	18.71	'22	'04		Drainage is free on account of the high position of the villages and from the undulating nature of the ground. Rain-water is tolerably well drained into bails and fields.	Is taken from the river Bhagirathi, and from bails and tanks. The quality of the water is generally bad.	Same as in Rughunathganj thana described above.
	Bharatpur—Rural	108,025	.....	16.32	'74	'03		Drainage is not free, the villages are water-logged in several places.	The chief sources of water-supply are the Bhagirathi river, the baras bail, and the tanks. The slope and the bed of the river as well as the sides of the tanks are freely resorted to for defecation.	The houses are devoid of ventilation, and those in Duttabela are too close to each other to admit of the free circulation of air. The Mochesa, Hara, and Musulmans are indifferent to domestic cleansing. House-refuse and sweepings are not removed to a suitable distance, but cattle-dung is dried and utilized as fuel in the dry months. Defecation is promiscuous.
	Gosa—Rural	79,423	'05	25.45	1.07	'12		The Bansaria and Nyanatpara road gets water-logged, and the road along village Chardup was breached by the floods of 1885, and the part where its culvert was, has been converted into a doba. Water stagnates in many villages. The road outside of Chokrepars has entirely obstructed the drainage of that village.	Is taken from the rivers Pudma, Bhagirathi, and Bhayrub, and from khals, joles, bails and wells. There are very few tanks. The khals, bails, &c., along the portion of the Bhagirathi within this thana silt and dry up in the spring, and then there is a scarcity of water. This contingency does not, however, occur in the opposite side of this river.	The houses are mostly made of mats, reeds, bamboos and grass. Mud-walled houses are rare. The houses are scattered and are not crowded with inmates. Domestic cleansing is not generally observed. Unhealthy hollows and ditches, heaps of manure and sweepings, bones and skeletons of cattle on the waysides, ashes, and litter about houses, and defecation on the banks of the water-courses are common in this thana. In some villages cow-dung is dried and used as fuel.

Jellinghi - Rural	108,508	...	23 45	'06	'05	<p>The natural drainage is good in most of the villages, owing to their position being on elevated ground, but it is defective in the village Shabaria, Gundaapur, Helampur, and Kajapur, which are situated on low land and are flooded during the rains.</p>	<p>Is taken from the Bhayrub and Khorra rivers, the Shalmar nadi, wells and tanks. The slope of Shalmar nadi is resorted to for defecation, and its bed is muddy. A want of good drinking water is much felt in the villages of Mamknapur, Dombale, Shumbhannagar, Gundaapur, Helampur and Basapur. The water difficulty of Shabaria has been in a great measure met by the excavation of a tank in that village two years ago.</p>	<p>The dwelling-houses are mud-walled, and devoid of ventilation. In many villages the huts are open and airy, but in a few the houses are crowded together. House refuse is thrown on pathways and in waste lands. In some villages sweepings are used in filling up holes. Cattle-dung is collected in manure pits. Passages and pathways are defiled with human excreta. No conservancy arrangements exist in any village. Burials generally take place in the compounds of dwelling-houses. In some villages the pauper dead are cast into the Shalmar nadi.</p>
Dowlatabazar - Rural	38,568	.....	36 16	'35	'02	<p>Drainage is pretty free. A little water-logging takes place in Shusabad. This thana is situated on somewhat high ground, and is therefore little affected by floods.</p>	<p>Is obtained from the Bhagirathi and Bhayrub rivers, and from bhis, khals and wells. In many villages there are wells only: tanks are rare. The quality of the water has not been stated.</p>	<p>The houses are constructed in the usual manner, but some of them have mud walls, and they are arranged in long lines instead of in the usual groups. Defecation is carried on on the banks of the Bhayrub, in gardens, on pathways, and about the dwellings. Hollows containing dung, ashes, decaying vegetation and stagnant water are common. The habits of the people in the Basantapur village are particularly unclean. Dead cattle are thrown on waste lands. Cowdung is generally utilized as fuel.</p>
Hariharpara - Rural	57,135	.....	20 11	1 34	'03	<p>There are only two roads—one leading from Goraipur and the other from Hariharpara. Both of them become very choney in rains, and in some places impassable. This thana being on a flat surface, the drainage is generally defective. Superficial draining finds its way into corn-fields, tanks, and water holes. The outfall is into the silted-up Baromeshia khal or into undrained bhis. This thana gets water-logged.</p>	<p>Is obtained from the river Bhayrub and its branch, called the Baromeshia khal, tanks, bhis and wells. Some villages are honeycombed with hollows from which water is taken. The tanks are choked up with weeds and other vegetation. As there is no running water-course in this thana, good drinking-water is scarce. The tanks are indiscriminately used for drinking, bathing, washing of soiled clothes, and laving of domestic animals.</p>	<p>Jungle abounds in the villages of this thana, and is so dense in some places as to afford a habitation for wild animals, of which the wolf is the most common. The houses are subject to ground damp during the floods and heavy rains. The villages are generally unclean. Accumulations of house-refuse, rotten cattle dung, &c., are allowed to be in and about the dwellings. Defecation is promiscuous. No conservancy arrangements exist in any village.</p>
Novada - Rural	47,559	.....	21 53	'44	.....	<p>Same as in Hariharpara thana described above.</p>	<p>Same as in Hariharpara thana mentioned above.</p>	<p>The houses are mud-walled and scattered, and in some villages separated from each other by jungle and bamboo clumps. Domestic cleansing is not observed. The habits of the Mussalman who form the bulk of the people are very filthy. Cattle-dung is dried and utilized as fuel. Defecation is promiscuous and is largely carried on on the foreshore and even bed of the Bhagirathi river. No conservancy arrangements exist in any village. Cremation takes place on the bank of the Bhagirathi, and burials are also made on the banks and in the dried-up portions of that river.</p>
Gokura - Rural	42,446	'02	18 23	1 93	.....	<p>This thana is situated on a little higher level than the adjoining thana Khurgram, and there is little or no flooding. The natural drainage is pretty free. It flows into the natural streams through the Kandurs. The permeability of the soil assists the drainage.</p>	<p>Is taken from the Bhagirathi and Dwarka rivers, and from tanks. The water of the river Dwarka is muddy, and is therefore not much used for drinking. Tank water in this thana is said to be fit for drinking, notwithstanding that nuisances are sometimes committed on their sides.</p>	<p>The houses are mud-walled and scattered, and in some villages separated from each other by jungle and bamboo clumps. Domestic cleansing is not observed. The habits of the Mussalman who form the bulk of the people are very filthy. Cattle-dung is dried and utilized as fuel. Defecation is promiscuous and is largely carried on on the foreshore and even bed of the Bhagirathi river. No conservancy arrangements exist in any village. Cremation takes place on the bank of the Bhagirathi, and burials are also made on the banks and in the dried-up portions of that river.</p>
Kaliananjan - Rural	37,206	.....	25 32	2 87	'26	<p>This thana is situated on somewhat elevated ground. One of the principal roads, from Nerurgram to Kaliananjan, has, however, been breached by the floods, which have caused a wide gap half a mile in extent, but the drainage of the thana is good. There is no water-logging worthy of notice.</p>	<p>Is obtained generally from bhis and tanks. Defecation is freely carried on on the banks of tanks. The Bacia bhi, the largest and most important one in the thana, is covered with vegetation, and dries up in the hot season when there is a scarcity of water.</p>	<p>This thana is comparatively free from jungle, but numerous bamboo clumps are to be seen in villages Pashu and Gurey. Generally speaking, the conservancy arrangements are pretty fair, but pits of cowdung and manure and cesspools are sometimes seen amidst habitations in Kamphote, Moninabad, Itacharan, and Dhiogur villages.</p>

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.			
		Population.	1863.	1861.	'07.			
Murshidabad.	Badurhat or Sagor- dighi—Zural.	27,869	.....	31'63	1'61	'07	Is taken from the river Bhagirathi and from tanks and two dighies, the Rumbhakur and Shagur-dighi. These dighies are well known and contain wholesome water. The hilly plant in the tanks filter the earthy impurities of the water, and such tanks are commonly met in fields. In some places there is a scarcity of water in the dry season.	The houses are widely apart from each other, except on the bank of the river Bhagirathi, where they are close and in rows. The bustees are open and free. Nothing particularly unclean is to be seen in any village. No conservancy arrangements exist.
	Bhagwanpola— Zural.	57,293	.....	38'58	1'03	'06	Is obtained from the rivers Padma, Bhayrub, and Bhagirathi, the Churkati nulla, the Barnathakur and Kesarpur khals, the Narajole, and from tanks and wells. The Bhayrub almost dries up in the hot season at Khoribora, and animalculæ are found in the decomposing water that remains. The tanks are covered with rotting vegetation, and some of them are beset with jungle. The water off some of the wells becomes brackish in summer.	The houses are built apart from each other, admitting of free perfusion of air, and are for the most part constructed of mere hovels of mats, reeds and bamboos. Cattle litter and other house-refuse are thrown about in the compounds and around the houses, and there are a good many unwholesome hollows, which in some places contain fecus. Defecation on the roads and pathways and on the banks of the Bhayrub is very common. No conservancy arrangements exist in any village.
	Shamsherganj— Zural.	69,536	'01	28'84	6'05	'11	Is taken from the river Ganges and from tanks, bhis and bairs. The tanks are covered with rotting vegetation, and some of them are beset with jungle. Some of the bhis dry up in spring, when there is a scarcity of water.	The villages are widely apart from each other, except on the bank of the river Ganges, where houses are close and in rows. The bustees are open and free. Domestic cleansing is more or less observed by the people. No conservancy arrangements exist in any village. House-refuse is thrown on pathways and in waste lands. Defecation is promiscuous.
	Suti—Zural	66,555	.....	19'15	'48	'01	Is obtained from the Bhagirathi river, the Puga and Bason nadis, tanks and a few wells. The water of all these sources is, however, rendered impure by all sorts of pollution. Defecation is common on the sides of these water-courses and water receptacles.	The houses are scattered, and none of them are mud-walled. No conservancy arrangements exist. The banks of the rivers and pathways are resorted to for defecation; there are unhealthy hollows amidst habitations, and the bones of cattle are to be met with on waste lands and in gardens. The pauper dead are believed to be thrown into the Bhagirathi river, particularly in Kalipanj.
	Miraspur—Zural	45,406	.....	23'14	1'00	.....	Is taken from the river Bhagirathi, and from tanks and wells. There are several dighies or artificial lakes with high banks, but nearly all of them have degenerated into silted and choked-up tanks. Notwithstanding, water from them is often used for drinking and other purposes.	Domestic cleansing is observed by the Hindus, but not by the Mahomedans, who are dirty in their habits. No conservancy arrangements exist in any village. Defecation is carried on everywhere. Cremation takes place on the bank of the river Bhagirathi, and burials in private enclosures.
	Kurigram—Zural	54,018	'07	15'05	2'70	'09	Is obtained from the river, Dwarka, bhis and tanks. Many of the tanks require reclamation; most of them are overgrown with vegetation, and a few have silted up.	Domestic cleansing is somewhat observed here. There are, however, foul ditches and holes in Rajpur, manure-pits in Dhumulpur, and cattle bones in the fields in Jabuni.

Khulna - Town	6,178	6'63	3'33	1'13	The drainage of this town is fairly good, but there is much room for its improvement.	Is taken from the river Bhoirab, and in places away from the river from tanks. The river water is tolerably good, except during the rains, when it is polluted by the overflow of stagnant bills. The tanks are generally covered with vegetation, which is pushed back at the spot where people draw water for drinking as well as for other purposes.	The conservancy arrangements are far from satisfactory. There is only one cart for removing sweepings, consequently much is left round the houses throughout the bazar. Defecation is carried on everywhere, and the fecal water is washed into the ditches and tanks used for domestic purposes. The private privies are of the worst description, and are never cleaned properly.
Khulna - Rural	121,212	14'91	2'40	'17	The soil is clayey with an admixture of sand. The drainage of the place is very defective.	Is taken from the river Bhoirab and from tanks; the latter are full of weeds, and their banks are covered with low jungle.	The houses are made of split bamboo walls, the roofs being thatched with straw. Domestic cleansing is more or less observed, but no conservancy arrangements exist. Cattle are housed in separate huts. There are no roads, and the village paths are lined with rank vegetation. Defecation is promiscuous. There are no appointed burning and burial-places.
Satkhira - Town	8,733	14'57	'03	'11	The drains are kutcha, except four deep culverts at the mouth of the drains, discharging into the Satkhira khal. The drainage of three wards is to the khal that of the rest to bills, some of which are in municipal limit.	Is from the khal and tanks; the former is bad, but the latter fair.	There are no public latrines. Privies are cleaned by private melters. At present sweepings are thrown into the khal, making the water worse.
Satkhira - Rural	87,876	...	20'64	'48	'07	Drainage is very defective. There are numerous excavations on and at the sides of the one kutcha road that exists in this thana, and in these water collects and stagnates.	Is taken from the river Betna and from wells. The river is silted up and nearly covered with weeds, and the water smells of vegetable decomposition; the tanks are also covered with weeds.	The dwellings are built of mud walls, the roofs being thatched with straw or leaves. Domestic cleansing is fairly well attended to, but no conservancy arrangements exist. Defecation is promiscuous. The Hindus burn their dead on the banks of the river Betna. The Mohammedans bury theirs in their homesteads.
Dumuria and Talla - Rural	109,020	15'12	1'36	'09	Same as in Satkhira thana described above	Water-supply in these thanas is chiefly taken from tanks which are not free from suspicion.	More or less the same as in Satkhira thana described above.
Bitaghattia - Rural	87,501	15'62	6'05	'26			
Paikgatchia - Rural	70,478	19'21	3'24	'35			
Bagirhat - Rural	137,818	'007	19'33	3'17	'23	There is no drainage system. In some places the water flows into rivers and khals; in others it collects and stagnates in ditches, holes and excavations, from which there are no outlets.	Is taken from the river Bhoirab, khals and tanks; the water in the last-named is said to be clean, although they are full of weeds.	The dwellings, which are kept pretty clean, are made of split bamboo mat walls, the roofs being thatched with leaves. There is a good deal of jungle in this thana, and that is where people generally resort for defecation. No conservancy arrangements exist. There is no burial-ground. The dead are interred in homesteads.
Mollahat - Rural	50,478	11'45	1'38	'21	Same as in Bagirhat thana described above	Same as in Bagirhat thana described above	Same as in Bagirhat thana described above.
Rampal - Rural	49,927	19'14	3'55	1'30			
Morrelganj - Rural	62,670	14'34	3'72	'27			

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Small-pox.	Typh.	Cholera.	Howl-cough.	Drainage.	Water-supply.	Domestic cleansing.
Khalna	Kalorcan—Rural	.....	18'21	'46	'12	Drainage is very defective. The country is so low-lying that it is almost every year inundated in the rains by the rise of the Ichamanty river.	Is obtained from the river Ichamanty and from khals which contain sweetish water; also from tanks which are full of weeds.	The dwellings are of mud walls and thatched roofs. Domestic cleansing is pretty fair. No conservancy arrangements exist. Defecation is promiscuous. Cowdung and refuse is collected outside the dwellings.
	Magura—Rural	.....	20'63	1'33	'04	In places where drainage exists, it flows into khals and swamps. In most of the villages of this thana, however, there is no drainage at all. Water collects and stagnates in holes, ditches and excavations, from which there are no outlets.	Is taken from streams, khals and wells, mostly from the two sources last named, which dry up in the hot season, when there is a great scarcity of water, and the people have to go a long distance for it.	The dwellings are made of mat walls with thatched straw roofs. No conservancy arrangements exist. Rubbish and offensive matter is allowed to lie about the place. Defecation is promiscuous. There are no appointed cremation or burying-places. The Hindus burn their dead on the banks of streams. Mahomedans bury theirs in their homesteads.
	Assasuni—Rural	.....	18'77	1'74	'44	Same as in Magura thana described above...	Same as in Magura thana described above	Same as in Magura thana described above.
	Kaliganj—Rural	.....	18'65	1'35	'13	Same as in Magura thana described above...	Same as in Magura thana described above	Same as in Magura thana described above.
Jessore	Kotwali (Jessore)—Town.	.....	9'13	'86	1'17	The drainage is pretty fair; it is towards the river Bhyrub. Six main drains and several small saucer-shaped ones joined to them drain the town into the river Bhyrub. There are 17 pucca and 83 kutcha drains. All of them are kept in working order.	Is taken from the river Bhyrub by those who live near it, and from tanks and wells by others. Five of the tanks are reserved for drinking purposes, but the Pundit tank near the Chairman's house receives inward drainage from the cattle stand at the Chairman's house, and is surrounded by much vegetation and overhung by trees. The water is not good, and the tank requires to be much more opened out to air and light. The wells are well protected from pollution. The river Bhyrub is covered with weeds and water-plants, and becomes a stagnant pool in the cold season.	Surface cleansing is fairly attended to. Sweepings and rubbish are used for filling up excavations and low lands. Dung and refuse from the cattle-sheds and stables are not properly disposed of. There are five public latrines. The private privies are under municipal management. The night-soil is trenchered, but the trenches are too deep made to suit the discharge from carts. If other grounds are taken up, buckets only should be used. Promiscuous defecation is common. The arrangements in connection with internments are unsatisfactory.
	Kotwali—Rural	.....	13'97	1'64	'05	Some of the rivers and khals which form the natural drainage have silted up; the drainage is therefore defective.	Some of the villagers resort for water-supply to the Bhyrub and Mukteahari rivers, which are full of weeds and have silted up at their sources; some villages have wells, but they are situated on objectionable sites, have no parapets around their margins, and are polluted in many ways; and some villages obtain their supply of water from old and shallow tanks.	The dwellings are badly constructed, and are, as a rule, devoid of ventilation, excepting those which have their walls made of split bamboo, through the crevices of which air passes; but these openings also expose the people to cold and rain. The floors of the dwellings are generally kutcha, but are kept clean. The house yards are swept regularly twice a day, except at harvest time. No conservancy arrangements exist. Defecation is promiscuous.

Kesabpur - Rural	83,490.	17-32	1-24	'02	Most of the villages are situated on the banks of rivers. But the drainage, instead of flowing into the water-courses, flows into bheels and swamps which abound in the surrounding country.	Is taken from the rivers Bhyrub, Kapadak and Bhudher and from several tanks, khals and excavations. The water of the rivers and khals is polluted by dead bodies being thrown into them.	Houses are made of split bamboos or mats and thatched with grass. No conservancy arrangements exist. Fumale abounds in the villages. Defecation is carried on in the jungles, in waste places, and on roadsides. There are no proper roads. Dead bodies are thrown into the rivers and khals, some after being only half burnt.
Jhenida - Rural	102,627	17-32	'20	'02	Most of the villages are on the banks of the river Nobonganga and a khal. These as well as the villages in the surrounding low tracts are washed out every year by the rise of the river. Drainage is defective.	Is taken from river Nobonganga and a khal and from wells. The water of Nobonganga has become stagnant, and is polluted by fishing weirs (tumars). The khal dries up in summer.	Dwelling-houses are built of mud walls or split bamboos and thatched roofs, and are surrounded with jungle. The houses are ill-ventilated. No conservancy arrangements exist. Sweepings and refuse are not removed. Defecation is carried on promiscuously on the banks of river and in waste lands and on roadsides. Hindus burn their dead on the banks of the river Nobonganga, and Mahomedans bury close to their dwellings.
Kotechandpur - Town.	9,284	24-66	'21	'86	The natural drainage of the town is towards the river Kapadak, fields and a khal. Many of the roads have been provided with pucca side-drains.	Is taken from the river Kapadak by those living near it, and from tanks and wells by others. The river Kapadak has silted up, and is choked with weeds, and rendered worse by fishing weirs.	Surface cleansing is attended to. There are two sweepers and two carts for the purpose. There are bamboo-topes and jungles in the town, and large hollows and excavations on either side of many of the roads. A few of the roads only are metalled, the others being kutcha. There is one public latrine and one urinal; another latrine is being constructed. Well-to-do people have well-privies of their own; others resort to waste-lands and jungles for defecation. Cremation and interments are carried on in appointed places. The markets are kept clean.
Kotechandpur - Rural.	34,764	23-42	1-43	'05	Drainage is defective. Pits, hollows, excavations and khals receive all the surface water, &c.	Is obtained from the river Kapadak, khals, tanks and wells. The river Kapadak is stagnant and full of weeds; and dead bodies are cast into it. There is no good tank. In some villages scarcity of water is much felt.	Houses are made of split bamboos and thatched roofs. No conservancy arrangements exist. Defecation is carried on anywhere and everywhere. Hindus, as a rule, throw their dead into Kapedat river after only partially burning them, and sometimes after only touching their mouths with fire. Mahomedans bury their dead close to their houses.
Magura - Rural	129,162	16-35	1-35	'03	The villages are on the banks of the rivers Nobonganga and Kumar and khals, and are subject to inundation. The drainage flows into bheels which have silted up.	Is taken from the rivers Nobonganga and Kumar, and from dirty tanks and wells. The water of the rivers has become stagnant and polluted by fishing weirs. In some places the people have to go a long distance for drinking water.	Houses are built on raised mud plots, and are made of split bamboos thatched with grass. There is great deal of jungle in this thana. There are no proper roads, and no conservancy arrangements exist. River banks and waste places are used as latrines. Hindus cremate their dead on the banks of the rivers, and the Mahomedans bury theirs close to their dwellings.
Naraul - Rural	151,362	18-63	3-63	'05	This thana is situated in the banks of rivers and khals. It is generally low-lying, and is inundated every year. The drainage flows into bheels and fields. The khal between Singra and Sulpur also serves as a drain. The portion of the Chitra river, which formerly passed through some of the villages, has silted up and obstructed the drainage of those parts.	Is obtained from the rivers Bhyrub and Chitra and from bheels and tanks. There being no good tanks, the want of good water is much felt in some villages.	The houses themselves are kept clean, but low jungle is allowed to grow round about. The conservancy arrangements are most objectionable. There are numerous pits and excavations which have become reservoirs of festering filth of every description. There are a few latrines on the banks of the rivers and water-courses, but defecation is still promiscuously carried on. Hindus burn their dead on the banks of rivers and khals, and Mahomedans bury near their houses.
Bagarpara - Rural	63,902	18-46	5-79	'06	Most of the villages are low-lying and are inundated every year. Drainage is defective.	Is taken from rivers Bhyrub and Chitra, and from tanks, bairs and excavations. The want of good drinking water is much felt in most of the villages.	No conservancy arrangements exist. There are no proper roads. Promiscuous defecation is carried on. Cremation takes place on the banks of rivers, and interments by Mahomedans are made close to their houses.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
	Manirampur— <i>Rural</i>	115,611	18'46	'84	'03		The country is full of swamps and bheels into which the drainage flows.	Is taken from the rivers Bhumb, Bhuddur, and Kapadak, and from khals and tanks. But the water-supply is very deficient in almost all the villages. In some places where there are no good tanks, the people have made excavations on the silted-up bed of Harihar rivers, from which they obtain drinking water. There is one "dichi" near the police-station belonging to Chanchra Raj, but it is silted up, and its water has become so bad that it is no longer used.	Houses are made of split bamboos thatched with grass. No conservancy arrangements exist. There are no roads. Defecation is promiscuous, human and waste lands being the favourite places. Half-burnt bodies of dead Hindu are thrown into the rivers Harihar and Kapadak. Mahomedans bury their dead close to their houses.
	Godkhali— <i>Rural</i>	67,420	18'42	'93	.....		Some of the villages are on high ground. There is no drainage system. A khal which used to drain the country has silted up.	Is taken from the river Kapadak, tanks, wells and baors. The water of the Kapadak is highly polluted by corpses being thrown into it, and by fishing weirs. There are no good tanks. In some villages scarcity of water is felt, and the people have to go a long distance for their supply of water.	Houses are, as a rule, made of split bamboos and thatched roofs, and their floors are raised on mud plinths. No conservancy arrangements exist. Defecation is carried on in any places the people find most convenient. Villages are full of human and cattle excreta, and houses, cook-room and other refuse is collected near houses. Hindu dead are burnt incompletely on the banks of the river Kapadak and then thrown into it. Mahomedans inter in their own homesteads.
	Kalganj— <i>Rural</i>	89,202	19'80	'97	.....		Villages are surrounded by fields and swamps into which the drainage flows and stagnates, for there are no outlets.	Is taken from the river Chitra by those living near it, and by others from tanks and baors. The latter dries up in summer, when the people have to walk a long distance for water. The river Chitra is full of decomposing weeds, and has almost silted up.	Same as Godkhali rural described above.
	Harinakunda— <i>Rural</i>	41,865	26'75	1'43	'16		Villages are situated on the banks of the rivers Noboganga and Kumar and around the Kayashati baor. They are inundated every year. Drainage flows into the rivers and bheels.	Is taken from the river Noboganga and Kapashati baor, and from several small tanks excavated in the silted-up bed of a khal. The baor is full of decomposing weeds, and bamboos are steeped in the tanks.	No conservancy arrangements exist in this thana. Promiscuous defecation is carried on to a great extent. Cremation takes place on the banks of the river Noboganga, and interments are made close to houses.
	Shalkhia— <i>Rural</i>	50,464	16'24	3'43	'09		Most of the villages are on the banks of the rivers Kukti and Chitra, and are inundated every year. The buntas, being on higher ground, are fairly well drained, but the rest of the country remains under water for nearly four months of the year.	Is taken from the rivers Kukti and Chitra by those living near them, and from mere excavations by others. The water of the rivers is seriously polluted by vegetable, decomposition and washing of cattle.	The dwellings are built on raised floors and are made of split bamboos and thatched roofs. There are no proper roads. No conservancy arrangements exist. Fields and roadsides are used as latrines. The arrangements connected with cremation and interments are the same as in other thanas.
	Mamudpur— <i>Rural</i>	83,677	20'01	'53	'01		The country is low-lying and swampy, and is inundated every year by the rise of the Madhumaty river. Drainage flows into bheels and swamps. The khal between Chardbaray and Hatbaray also serves as a drain.	Is taken from the rivers Madhumaty, Gorai and Noboganga, and from tanks, baors and excavations; but the supply is scanty.	Houses are built on raised ground, and are made of split bamboos or mud walls and thatched with grass; their floors are knuba. There are no roads. No conservancy arrangements exist. The thana is full of cane and other low jungles. Cremation is carried on on the banks of Madhumaty, and interments are made in the compounds of houses.

Kalia—Bural	72,947	...	18'55	2'53	'08	Villages are low-lying and are subject to inundation. There are numerous khalas, rivers and bheels. The drainage flows into the khalas and fields.	Is taken from rivers, tanks, and excavations made into the bheels around houses. Cattle are washed at the same place in the river from which drinking water is taken.	Some of the houses are pucca, others are kutcha, and are made of mats and grass roofs. No conservancy arrangements exist. People ease themselves on the banks of rivers, tanks and roadsides. Hindus cremate their dead on the banks of rivers, and Mahomedans inter them in their own homesteads.
Lahaura—Bural	163,968	16'55	3'12	'09	Most of the villages are situated on the banks of the Madhumatty and Noboganga rivers, and are washed out every year. The banks of the rivers being higher than the surrounding country, the drainage and the water from the bheels cannot easily discharge into the water-courses.	Is taken from the rivers Noboganga and Madhumatty and from tanks. Banks of rivers are used as latrines.	Some of the houses are pucca, others kutcha and made of mat walls and straw roofs. Pits, hollows and excavations are common. No conservancy arrangements exist. Defecation is carried on on the banks of rivers and in the fields and waste places. There is much jungle in the villages. Cremation is carried on on the banks of rivers Madhumatty and Noboganga, and interments are made close to houses.
Sailkopa—Bural	138,505	15'01	'54	'09	Most of the villages are riparian. The drainage is obstructed by numerous pits, hollows and excavations. The bheels are inundated every year by the rise of the Kumar and other rivers.	Is taken from the rivers Kumar, Noboganga and Kapadak, and from tanks, bheels and boars. The rivers are polluted by fishing weirs.	The country is so full of jungle that it gives shelter to wild animals. Six or seven children are said to have been carried away by jackals. Houses are kutcha, but their surroundings are kept clean. House and other refuse of all sorts are kept near houses till they are removed for manuring the fields. Defecation is carried on in the fields and in any place that is convenient. Hindus burn their dead on the banks of rivers, and Mahomedans inter them close to houses.
Dongang—Bural	55,023	27'29	'06	'10	Some of the villages are on low and some on high ground, but they are flooded whenever the river overflows its banks. The drainage flows into pits, hollows and excavations, which are common.	Is taken from the rivers Ichamatty and Noboganga, and from tanks and bheels. Rivers are overgrown with weeds, and the water from the tanks also is not good.	Most of the houses are pucca and well ventilated, those of the poor are kutcha huts made of mud walls and straw roofs. Villages are full of bamboo tops and other junkies. The roads are in good order. No conservancy arrangements exist. Pits, hollows and excavations are seen all over. Defecation is carried on promiscuously on the banks of rivers and in the fields, waste places and roadsides. Hindus burn their dead on the banks of rivers. Mahomedans bury their dead close to their houses.
Calghatta—Bural	59,253	28'03	'33	Same as in Bongong thana described above ...	Same as in Bongong thana described above *	Same as in Bongong thana described above.
Garripotha Bural	61,032	17'36	'31	'08	Some of the villages are low-lying and are inundated every year. The natural drainage flows into bheels and khalas. It is defective owing to the Betna river, which formed the natural drainage of the country, having silted up.	Is taken from the rivers Ichamatty, Betna, and Kodla, and from shallow boars, bheels and tanks. The water of the rivers is polluted by <i>kumars</i> , and is full of weeds, and almost stagnant.	Houses are made of mud walls and straw-thatched roofs. They are ill-ventilated without a window or even a hole to admit the air and light. There are no roads. No conservancy arrangements exist. People defecate anywhere they like. Burial and cremation arrangements same as in other thanas in Jessore.
Moheshpur—Tona	8,455	27'25	'57	'23	The drainage of the town is towards the rivers Bhayrub and Betna. It is defective. The existing drains are not properly levelled. Some of the roads are provided with pucca side-drains, but most of the drains are kutcha.	Is taken from the rivers Bhayrub, Kapadak and Betna, and from tanks. The Bhayrub becomes low and impure in summer; the Betna has silted up and the Kapadak is full of weeds. The well-to-do people use the water of bheels, which is said to be better than that of the rivers. There is one Municipal tank, but being situated at a distance it cannot conveniently be used. Two other tanks are being excavated.	Surface cleansing is attended to. Two sweepers and one conservancy cart are kept for the purpose. The houses of Hindus are kept cleaner than those of the Mahomedans. Low jungles abound. There are some pucca roads which are kept clean. Pits, hollows and excavations are common. There is no public latrine. The well-to-do people have well-privies of their own, but the majority of the people resort to jungles and waste places for defecation. There is a burning place, but still the zemindars of Moheshpur cremate their dead close to Muhi busti. Sometimes dead bodies are thrown into the Kapadak river after being only partially burnt, or they are left on the banks of the river to be devoured by dogs and jackals. Mahomedans bury their dead close to their houses.

District	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Small-pox.	Fever.	Cholera.	Bowel-complaints.		Drainage.	Water-supply.	Domestic cleansing.
Jessore	Moheshpur—Rural	.....	14'21	1'72	'23	109,452	The villages are situated on or near the rivers, and are full of bheels and baors. They are inundated every year. The drainage flows into bheels, baors and rivers, and is defective owing to some of the baors and rivers having silted up.	Is taken from the rivers Kodla, Kulki, Ichamutty and Karadak, and from bheels and baors. The water of the rivers is polluted by the practice of throwing corpses into them. Some of the bheels and baors dry up in summer, when there is a great scarcity of water.	Houses are very badly made of mud walls with scarcely any ventilation. There are no roads. No conservancy arrangements exist. Defecation is carried on anywhere. The Hindus burn their dead on the banks of rivers. The Mahomedans bury their dead close to their houses.
	Sharsha—Rural	.....	'83	'36	.....	79,046	The drainage flows into the bheels, baors and rivers. It is defective owing to the river Betna having silted up.	Is taken from the rivers Ichamutty, Betna and Kodla, and from shallow tanks, bheels and baors. The Ichamutty is not much used for fear of crocodiles. Betna and Kodla are full of weeds, and become shallow and impure during summer.	Same as in Gaighatta rural described above.

Dinajpur	Dinajpur—Town	12,560	'07	11'96	'25	'62	A good drainage scheme has been taken in north and a large cut made through the north and west part of the town. It is yet incomplete, but at various places it is draining sub-soil water efficiently. Junctions by short drains have not yet been made, but will be carried out soon. The scheme when completed will improve the drainage of the town materially. The project is being carried out through the liberality of the Maharaja of Dinajpur.	Is taken from the rivers Gagra and Purnobhaba, as well as from tanks and wells. Some of the tanks and wells have been reserved for drinking purposes, but the ground around the latter has not been sloped to prevent seepage and inward drainage. There are numerous private tanks, but they are in a bad condition. Some of the private tanks and shallow wells dry up in the hot season, which causes a scarcity of water during that season. The banks of the rivers are fouled.	Conservancy arrangements are satisfactory. Surface cleansing is fairly well attended to. Sweepings are removed outside the town. There are 11 public latrines, 8 for males and 3 for females, in good order. The night-soil from the public and private privies is removed and buried outside the town. Some of the private privies are cleansed by municipal melters. There are two public urinals in wards A and B, and they are in a fair condition. The condition of the cattle sheds is unobjectionable, but the dung, &c., are not properly disposed of. There are numerous foul pits and water holes. Hindus burn their dead on the banks of rivers and the Mahomedans bury theirs in an overcrowded burial ground. Some of them bury in places other than the appointed one.
	Dinajpur—Rural	192,826	'05	30'63	'56	'15	The greater part of this thana is more or less subject to inundation except in the south-east, where the land is relatively high and covered with jungle. But actual perennial marshy land is rare. Most of the villages are above inundation level.	Is taken chiefly from tanks, but also from wells and the river Purnobhaba. The tanks are regularly excavated with high banks, but their inner slopes are polluted by travellers and villagers, and burials are frequently made on inner banks as well as on outer banks of tanks. The water of these tanks is turbid.	Houses are mostly scattered and not crowded. No conservancy arrangements exist. Refuse and cattle dung lie in heaps in front of houses. Defecation is carried on around the houses and in the fields. The Mahomedan dead are buried in the compounds of houses and on the banks of rivers and tanks.
Dinajpur	Beerganj—Rural	139,891	.....	35'57	1'83	'18	Particulars regarding these thanas are not yet available.		
	Thakurgaon—Rural	220,387	'09	30'09	'43	'10			

Raisankoil - Rural	75,102	.....	35'56	'10	'02	Villages are situated on somewhat elevated ground and are not subject to inundation. The soil being sandy and dry, absorbs the water quickly. There are numerous pits and ditches which contain filthy water and are never drained.	Is taken from kutchha wells, the mouths of which are uncovered. They are situated near filthy ditches and hollows, and are subject to pollution. Washing and bathing are performed at them."	Houses are not crowded together and are built on raised floors. They are ill-ventilated, having only one door and no windows. Surroundings unclean. Sweepings and refuse are thrown around houses. Intervening spaces between houses and waste lands are used as latrines. Cattle are housed in fenced houses; their dung, &c., are heaped outside houses. Filthy water from houses is allowed to run on foot-paths. The Hindu dead are sometimes burnt completely and sometimes incompletely, and then thrown into balls and the river Nagore. Mahomedans bury their dead some at a distance from their village and others on the banks of tanks close by.
Peerganj - Rural	95,880	'14	32'04	'07	'03	Particulars regarding this thana are not yet available.		
Hemlabad - Rural	85,237	.....	25'21	'09	'14	Some of the villages are on high and some on low ground. The former are not inundated but the latter are flooded by the river Cullie during the rains.	Is obtained from wells and the river Cullie. Some of the wells are situated near ditches containing dirty water, and are thus liable to contamination.	Houses are not crowded together. They are built on raised floors and are ill-ventilated. Surroundings very dirty, with all sorts of filth. Waste lands and the nearest fields are used as latrines. Cattle are housed separately in the out-houses, and their dung, &c., are stored up there. Dead cattle are thrown into the nearest fields. Complete cremation is carried on among the rich Hindus only; others throw the dead bodies of their friends and relatives half-burnt into the river Nagore. Some of the Mahomedans bury their dead and some throw them away.
Navabganj - Rural	61,637	.....	31'14	'06	'33	Particulars regarding this thana are not yet available.		
Kahaganj - Rural	94,832	.....	2,987	'24	'19	The villages situated on high ground are naturally better drained than those situated on low ground. The latter is subject to inundation in the rains.	Is taken from river Nagore and from shallow wells. The latter are situated in objectionable localities, and their mouths being uncovered are liable to contamination.	Houses are built on raised floors, but their surroundings are very dirty, and sweepings and refuse are thrown around. Defecation is carried on in the nearest fields and on the banks of the river Nagore. Cattle are housed separately in the out-houses, where the dung, &c., are stored up. Only the rich Hindus burn their dead completely on the bank of the river Nagore; the rest throw them into the river half burnt.
Bunshihari - Rural	81,877	.....	20'39	'24	'03	Particulars regarding this thana are not yet available.		
Patmitollah - Rural	69,238	'01	27'18	'04	'21	Information under this head is not yet available.	Is taken from rivers, tanks, and wells. Some tanks are unclean. The mouths of many wells are protected by fencing.	Houses are built on raised floors, and are kept neat and clean, but cattle dung is heaped in front of them where there is no special receptacle for rubbish &c. There are some latrines within house compounds; but in general fields are resorted to for defecation. In some places the Hindu dead are thrown into the river Mahomedan dead are interred within house enclosures.
Mohadeopur - Rural	67,395	.....	20'32	'14	'04	Information under this head is not yet available.		
Parsha - Rural	48,556	.....	20'72	'30	'24			
Patiram - Rural	70,681	.....	26'40	'15	'18			
							Same as in Patmitollah Rural described above ...	

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Dinaipur	Gunsarapur— <i>Rural</i> .	74,481	.....	24.7	.....	'01	Same as in Dinaipur Rural described above ...	Same as in Dinaipur Rural described above ...	Same as in Dinaipur Rural described above.
	Chintamon— <i>Rural</i> .	52,058	.....	30.00	'32	The villages are situated on relatively high ground, the surface of which is undulating in parts. This thana is above inundation level.	Is taken chiefly from tanks and kutcha wells as well as from the river Jumuna. All more or less frequently polluted by human excreta.	Same as in Dinaipur Rural described above.	
	Parbatipur— <i>Rural</i> .	66,708	.....	24.78	'83	Particulars regarding this thana are not yet available.			
Raishabye	Beaulah— <i>Town</i> ...	19,791	.....	29.96	'75	3.	The drainage is unsatisfactory. The fall is good, but the drains are kutcha and difficult to keep in order. The refuse water from those house-drains, which are connected with the public drains, stagnates in the latter.	Is taken from the river Padma and from two tanks reserved for drinking and culinary purposes. There are many other tanks, but the water in most of them is unfit for any other use than the washing of utensils, &c. The river water is considered good.	Surface cleansing is not properly attended to. Sweepings, &c., are employed in filling up hollows and roadside drains, but much of it lies unremoved. House refuse is thrown about within the premises or into the public drains. There are only three public latrines, and they are kept in a filthy condition. There are about 102 private privies. Many of them are situated near ditches, drains, &c. Those of them which are under the municipality are kept fairly offensive, but the rest are filthy. The nightsoil from the public latrines and from those private ones which are under municipal control is hurled in deep trenches, but that from the rest are thrown into the jungles or into any convenient place. Defecation is carried on in the fields and roadsides and in drains. Cattle are kept within the enclosures of houses, and their sheds are in a bad condition. There are innumerable filthy pits, tanks and water-holes.
	Beaulah— <i>Rural</i> ...	51,086	.....	40.45	'19	'08	The villages are very low-lying and waterlogged. A peculiarity of the general drainage is that it flows away from the Ganges bank and towards the Chalan bhal. Numerous fishing weirs impede the drainage in the numerous slushy nadis and dhurs. There is much swampy ground towards the north, and the country is subject to inundation.	Is taken mainly from tanks and nadis, nearly all of which are highly polluted. Also from a few shallow wells and filthy pools in which bamboos are steeped and refuse thrown.	Houses are built on mud plinths raised about 2 feet from the surface. Except in the case of the huts of the lower classes, the enclosures of dwellings are usually cleanly swept. The sweepings are, however, simply thrown out of doors and allowed to accumulate, often heaped up against the wall and by the side of the doorways; sometimes it is thrown into adjoining hollows. Latrines are absent. The fields and paths on outskirts of villages are used as such. Cattle are housed in the immediate vicinity of dwellings; the litter is partially removed and dried for fuel, and occasionally used as manure; but much remains rotting in heaps near dwellings. Hindus frequently bury their dead on the banks of jils, &c., and where firewood is scarce, they throw them into the water without burning. Mahomedans bury their dead in the compounds of their dwellings and on the banks of jils and tanks. A few villages have burial grounds. Dead cattle are removed to the outskirts of villages.

Natore—Zawal ...	153,662	02	33'45	'16	Same as in Beaulah Rural described above	Same as in Beaulah Rural described above	Same as in Beaulah Rural described above.
Lalpur or Bilmara—Zawal.	84,953	.....	23'17	'07	Same as in Beaulah Rural described above	...	Same as in Beaulah Rural described above.
Bagrama—Zawal ..	121,551	.....	33'65	'01	Same as in Beaulah Rural described above	...	Same as in Beaulah Rural described above.
Nougaon—Zawal ...	85,640	.....	26'32	'12	Some of the villages are on high ground and on the river Jumna. The natural drainage of this thana is good. Some of the villages, however, which are situated on low ground are very imperfectly drained.	Is obtained from the rivers Jumna and Pakirin and from tanks. The water of the Jumna is defiled by branches of trees being allowed to lie in it for the purpose of catching fish. The water supply of this thana is plentiful throughout the year.	Houses are built on raised ground, but their floors are damp. No conservancy arrangements exist, but the villages are fairly clean as regards surface-cleaning. Sweepings and refuse are thrown in ditches behind houses. Defecation is carried on in fields, jungles, and on the banks of rivers. Hindus burn their dead on the banks of the rivers, but at no fixed place. Mahomedans bury their dead within the compounds of their houses.
Mandari—Zawal ...	103,308	.....	27'73	'50	'01	Particulars regarding this thana are not yet available.	
Putia—Zawal ...	121,238	.....	30'34	'04	'23	Same as in Beaulah Rural described above	Same as in Beaulah Rural described above.
Singra—Zawal ...	112,607	.....	29'33	'02	'06	The drainage is good, the fall being towards the river. Some of the villages are on high and some on low ground. The latter are subject to inundation. There are numerous pits and hollows throughout this thana.	Houses are built on well-raised plinths, but their floors are damp. They are free from jungle and filth. Sweepings and refuse are collected behind houses. Some of the houses have latrines which discharge into pools, from which people also draw their drinking-water. People defecate in fields, jungles, and on the banks of tanks and rivers. Mahomedan dead are buried in the compounds of houses. Hindus burn their dead on the banks of the rivers Gur and Atrai. Incompletely burnt corpses are frequently thrown into rivers. Bamboos are stepped in the river Gur.
Borigram—Zawal ...	121,554	.....	29'78	'39	.....	Drainage is defective. Villages are situated on low land and are subject to inundations. Pits and ditches, which impede the drainage, are numerous.	Houses are on raised floors and are dry. Heaps of cordung are seen everywhere. No conservancy arrangements exist. People defecate in fields and in jungles. Hindus burn their dead on the banks of rivers, and Mahomedans bury in their own compounds. Frequently the Hindu dead are thrown into the rivers Mandkoja and Baral incompletely burnt.
Charghat—Zawal ...	124,190	.....	34'39	'04	'39	Same as in Beaulah Rural described above, but some of the villages are on high ground and are dry.	Same as in Beaulah Rural described above.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—			
		Population.	Small-pox.				Drainage.	Water-supply.	Domestic cleansing.	
			Small-pox.	Fever.	Cholera.	Bowel-com-plaints.				
Raichahye ..	Godagari—Rural ..	43,799	.....	34'86	'91	'04	Drainage is defective. The roadsides are not properly drained. Most of the villages are situated on low land and are subject to inundation during heavy rains.	Is taken from rivers, tanks, and wells. The chief sources of pollution are washing and bathing in the vicinity of wells, and placing branches of trees with leaves in rivers for the purpose of catching fish.	The houses, as a rule, are constructed of reeds or smashed bamboo plastered with mud. They are not over-crowded, but their compounds are invariably kept filthy, and refuse, sweepings, cowdung, &c., are heaped behind every house. There are no latrines. The Hindu dead are cremated on the banks of rivers and bhils, and the Mahomedan dead are interred in the compounds of dwelling-houses.
	Panchgaur—Rural	79,431	.....	17'97	'66	'06	Most of the villages are situated on the banks of the rivers Atrai, Gur and Nagore. Drainage is defective, and is impeded by fishing weirs. The fall is towards the north. During the rains water comes up to the villages.	Is taken from rivers Atrai, Gur and Nagore and from wells. The rivers are highly polluted, and the water in the wells is not above suspicion.	Houses are built on raised mud plinths and are dry. Sweepings and refuse are collected behind houses. Filthy ditches and holes are numerous on the sides of roads. People defecate in fields and on the banks of rivers. Hindu dead are burnt on the banks of rivers, and Mahomedan dead are interred within the compounds of houses. Carcasses are thrown into the rivers.
	Tatur—Rural ..	85,009	.....	34'45	'24	.	As in Beaulah rural described above; but there are numerous extensive bhils. Villages are generally situated on the margin of these bhils and are barely above inundation level.	Some as in Beaulah Rural described above.	Same as in Beaulah Rural described above.
Rungpur ..	Rangpur or Mahiganj—Town.	13,330	'07	15'39	2'55	4'12	The drainage, although considerably improved, is still defective. The drainage system of the civil station, Dharp and Nawabganj, has been kept open and some improvement made. Some drains have been opened out and others levelled. Some of the holes which cannot empty themselves have been partially filled up.	Is taken chiefly from wells, every house having one or two of them. There are five municipal and four other wells reserved for drinking purposes. They are fairly protected from pollution. There are also some tanks the water of which is not, however, used for drinking.	The conservancy arrangements of the town are still very defective and unsatisfactory. Surface cleansing is imperfectly attended to for want of adequate establishment. Refuse and cowdung are not removed from houses till required for manure. The condition of the cow-sheds is extremely bad. There are five public latrines, and about half the houses have privies of their own. The latter is in a bad state. The night-soil from the public latrines and from those private ones which are under municipal supervision is removed and trenchoned, but that from the rest is disposed of in an objectionable manner. Hindu dead are burnt on the four grounds appointed for the purpose, and the Mahomedan dead are interred in the neighbouring villages outside the municipality.	
	Mahiganj—Rural ..	116,270	.....	58'16	1'52	'45	Villages are situated on fairly open ground, and being low lying are scarcely above inundation level. The natural drainage of this thana is, however, fairly good.	Is taken from kutchas wells. Bathing and washing are performed near the mouths of these wells, the water of which is therefore not free from suspicion.	Some of the houses are damp, ill-ventilated and crowded. Sweepings, refuse and cowdung are heaped up near houses for manure. Defecation is carried on near paths, ways and fields. Dead cattle are thrown near houses. Corpses are buried near houses.

Particulars regarding these thanas are not yet available.						
	153,007	04	2472	2715	15	
Kaliaganj or Phun- renbari—Zaral.						
Ullipur—Zaral ..	215,218	.....	2724	4710	10	
Sadullapur—Zaral	112,553	.....	2446	2739	21	Is taken from the river Ghagrat and from wells. Their water is said to be good, but as bathing and washing are carried on around the latter, the water must be more or less polluted.
Darwani—Zaral ..	143,360	.....	2517	2724	08	Is taken from the river Karatoya and wells; both sources are polluted in the usual manner. Tanks also exist, but they are polluted by defecation on their banks.
Neabutanj—Zaral	124,507	.....	2866	1731	13	Is taken from shallow wells and the river Ghagrat, which is also shallow in some places. Bathing and washing are carried on near the wells.
Jaldhacca—Zaral...	153,572	.....	3186	467	08	Particulars regarding this thana are not yet available.
Dimala—Zaral ..	138,763	09	2548	3717	19	Is taken from kutcha wells the water of which is not above suspicion.
Barabari—Zaral ..	142,513	.....	2814	1223	22	Is taken from rivers Dharla and Teesta, tanks and wells. The chief sources of pollution are washing and bathing in the vicinity of wells, and placing branches of trees with leaves in rivers for the purpose of catching fish.
Kawrganj—Zaral...	88,619	.....	2976	2736	03	Is chiefly taken from shallow kutcha wells, and also from nadia, billis, and few tanks.

The floors of the houses are damp. Their surroundings are filthy, rubbish, sweepings, dung, &c., being thrown near them; jungle abounds. The dead are buried within the houses, and dead cattle lie about.

The houses are swept and leaped, but the sweepings and refuse are thrown about instead of being taken away. The pathways are filthy. Conservancy is absent. Burials take place near houses, where dead cattle also lie about.

In most villages the floors of houses are leaped, but are damp, and straw is therefore used for bedding. Rubbish is thrown near houses. Cattle dung and other organic refuse is generally heaped up near houses for manure. No conservancy arrangements exist. The fields are resorted to for defecation. Corpses and carcasses are buried near houses; in some villages within the premises. Some of the Rajbans burn their dead on the banks of the river Burna Teesta.

The habits of the people are dirty. There are no conservancy arrangements. Hindus burn their dead on the banks of the river Teesta. Mahomedans bury theirs close to their houses.

The houses, as a rule, are constructed of reeds or smashed bamboos plastered with mud. They are not overcrowded, but their compounds are invariably filthy, and refuse, sweepings, dung, &c., are heaped behind every house. There are no latrines. The Hindu dead are cremated on the banks of rivers and billis, and the Mahomedan dead are interred in the compounds of dwelling houses.

Some of the houses are damp, ill-ventilated, and crowded together. Refuse and rubbish abound near houses. Defecation is carried on near pathways, and dead cattle lie about near houses.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-com-plaints.			
Rangpur	Nagawanj—Rural...	177,229	.....	26.18	2.60	12	Villages are generally situated on high ground, and are thus free from inundation. The natural drainage is pretty good.	Is taken from the river Dudhkumar and from wells. The water of the river is very filthy. Bathing and washing are carried on near the wells, and in some places they are resorted to by too many people, so that the water gets muddy.	In some villages bamboo clumps and trees impede ventilation, and the houses are crowded with inmates at night. No conservancy arrangements exist. Fields are resorted to for defecation. The foot-paths and house surroundings are filthy. Dead bodies are buried within the compounds of houses or burnt on the banks of the river Brahmaputra. Dead cattle are thrown anywhere. The habits of the people are dirty.
	Mitapukur or Malang—Rural.	99,053	.....	24.74	1.14	33	Many of the villages are situated on pretty high ground. Drainage is defective. The roadsides are not properly drained.	Is taken from rivers Ghagat and Karatoya and wells. The water of both is said to be good, but bathing and washing are carried on around the latter.	The house-floors are swept, but are damp, and so the people sleep on <i>machars</i> . House surroundings are filthy, and refuse, sweepings, cowdung, &c., are heaped behind every house. There are no latrines. The Hindu dead are cremated on the banks of rivers and hills, and the Mahomedan dead are interred in the compounds of dwelling-houses. Dead cattle lie about.
	Pirganj—Rural.	69,008	.....	27.82	1.32	16	Same as Mitapukur rural described above.	Same as in Mitapukur rural described above	Same in Mitapukur rural described above.
	Bhowaniganj—Rural	57,803	.....	18.75	1.02	17	Particulars regarding these thanas are not yet available.	Is taken from rivers Karatoya and Ghagat tanks and wells. All the sources are polluted from the usual causes. Water in which jute has been steeped is here and there drunk.	The houses are dry. In some places jungle and mango groves abound. No conservancy arrangements exist. The footpaths and house surroundings are filthy. The fields are resorted to for defecation. Generally the dead are buried near houses, or in the compounds near the sleeping-rooms, or even within the houses. Dead bodies are also sometimes thrown into the river. Dead cattle are thrown anywhere.
	Sunderganj—Rural	91,469	.....	26.90	1.59	32			
	Gobindganj—Rural	189,027	.....	.....	24.81	1.33	The natural drainage in some places is good, in others the ground is low; but the soil being sandy, water is quickly absorbed.		
Bogra—Town	...	6,179	.....	6.81	1.33	1.94	Drainage is defective. Most of the drains are kutcha, and empty into the river. They are defective in level, constructed without system, and blocked with rubbish and jungle; and are consequently difficult to keep in working order. There is an extensive piece of land in the west, which becomes a swamp during the rains, and retains water for several months, causing dampness, and consequently fever and dysentery.	Is taken from the river Korotaya, but mostly from tanks and kutcha wells. The last cannot but be contaminated by the numerous well-privies in the town. The tanks are full of water plants, and are polluted by leaves from overhanging branches of trees, and by deposits of house sweepings on their banks. Only one tank and three wells have been protected and reserved solely for drinking purposes. The water-supply is insufficient during the hot weather.	House-refuse, solid and fluid, generally lie in pits and about the houses; little being deposited outside for removal by the conservancy carts. For want of carts, a good deal of the street sweepings, stable litter, &c., lies in heaps on waste land in the centre of the town, emitting a most offensive smell. There is only one public latrine. Well-privies are general. Night-soil from the public latrine is trenched, but that from the private privies is generally thrown into some convenient hollow or jungle. Promiscuous defecation is carried on to a great extent. The condition of the cattle sheds is most filthy. There are several foul pits and water-holes about the town.

Bogra—Rural ...	216,750	...	2647	'15	'03	The greater part of this thana is situated on open paddy plain, and is subject to inundation except the south-east corner, where the land is relatively high and undulating, and covered with considerable jungle. Actual perennial marshy land is rare. Some of the villages are above inundation level.	Is taken chiefly from tanks, and also from nadis and wells. The tanks are regularly excavated with high banks, but the inner slopes of the banks of many of them are polluted by travellers and villagers. Burials are frequently made on inner bank as well as on outer bank of tanks. The tanks are also used for bathing and washing purposes, and for watering cattle. The water of the tanks is turbid.	The houses are mostly well scattered, and not crowded. No conservancy arrangements exist. Refuse and cattle dung lie about in heaps, festering in the compounds of houses. Defecation is carried on around the houses and in the fields. The dead are buried in the compounds of houses and on the banks of streams.
Sherakandi—Rural	103,233	.....	2157	'12	'009	Same as in Bogra rural described above.	Same as in Bogra rural described above.	Same as in Bogra rural described above.
Sebagaj—Rural ...	59,030	.....	3053	.....	.....	
Sherpur—Rural ...	47,463	.....	3126	'03	'25	Villages are situated on high ground. Drainage is obstructed by rubbish and refuse from houses.	Is taken from the river Korolaya, and from wells and tanks. The mouths of the wells are uncovered, and their margins are not raised. Bathing and washing are performed near the wells, and the water is therefore not above suspicion.	Some of the houses are pucca, and some are made of mud walls. Compounds of houses are clean. Floors are raised and dry. Rubbish and refuse are accumulated in the compounds and sides of houses and in the streets and lanes. Defecation is carried on on the sides of paths. Hindus burn their dead on the banks of the river, and Mahomedans bury theirs within the compounds of their houses.
Panchbhiti—Rural ...	66,724	.....	2319	.....	'01	Villages are situated on relatively high ground, and the surface being more or less undulating, the drainage is pretty fair.	Is chiefly taken from wells and from river Jumuna, the water of which is good.	Same as in Bogra rural, but the villages are filthier, and the habits of the people dirty. Dead bodies of the semi-aborigines and Hindus are burnt more or less completely and thrown into the river Jumuna. Defecation is carried on on the banks of the river Jumuna.
Nowabganj—Rural	39,374	.....	2537	'10	'02	Drainage is defective. The roadsides are not properly drained.	Is taken from rivers, tanks and wells. The chief sources of pollution are washing and bathing in the vicinity of wells, and placing branches of trees in rivers for the purpose of catching fish.	The houses, as a rule, are constructed of reeds or smashed bamboos plastered with mud. They are not overcrowded, but their compounds are kept very filthy, refuse, sweepings, cowdung, &c., being heaped behind every house. There are no latrines. The Hindu dead are cremated on the banks of rivers and bails, and the Mahomedan dead are interred in the compounds of dwelling-houses.
Adamdighi—Rural	94,534	.....	2219	'23	.....	Same as in Bogra rural described above	Same as in Bogra rural described above	Same as in Bogra rural described above.
Khetlal—Rural ...	40,023	.....	2321	.....	'04	Some of the villages are situated on high ground and are not subject to inundation. Drainage on the whole is defective. The roadsides are not properly drained.	Is taken from wells. Tank water is not drunk, but used for other domestic purposes. Bathing and washing are performed near wells.	Houses are built of mud walls or smashed bamboos plastered over with mud. They have raised floors and are dry. Compounds of houses are filthy. Refuse and sweepings are thrown around houses. Dead are buried within the compounds of houses.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM — PER 1,000 OF POPULATION.					Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Howel-complaints.					
Bogra	...	...	22.91	32	03		61,003	Some of the villages are situated on high ground, and their natural drainage is good.	Is chiefly taken from wells the borders of which are not sufficiently raised. They are subject to pollution in various ways.	Houses are made of mud walls and of reed or smashed bamboos. They have raised floors, and are dry. Compounds of houses are not very clean. Dead are interred within the compounds of houses. Habits of the people are dirty.
Pabna	Seraiganj—Town	...	23.19	30	218		21,037	The town being very favourably situated, its natural drainage is good, but the drainage is impeded by many deep pits which are not connected with one another. There are no pucca drains. Wooden pipes are provided under some of the roads to serve as drains.	Tanks, wells and a khal are the chief sources of water-supply, which is not sufficient. For nearly eight months of the year the supply is very limited and of bad quality. There are 34 municipal wells, and a tank reserved for drinking purposes only. The latter is fairly protected, and is kept in proper order. Of the municipal wells, one-fourth are pucca and the rest kutchas. There are also numberless private wells which are used for all purposes.	The conservancy arrangements are defective. Surface cleansing is imperfectly attended to. Only the streets in the gunj are swept. House-refuse is thrown into pits, of which every house has one or two. There are only four pucca and one kutch public latrines, which are quite insufficient for local requirements. They are kept clean. Night-soil from the public and private privies is daily removed and trampled, but the liquid sewage is allowed to soak into the ground, or is accumulated in pits. About half the houses have privies of their own, which consist of bamboo scaffolding over four posts. Their condition is bad. Premicious defecation is carried on. Hindus burn their dead on the banks of the river Jumuna at the two municipal and one private burning ghats. Mahomedans bury their dead indiscriminately within the compounds of houses.
	Seraiganj—Rural	...	21.26	30	06		108,148	Most of the villages are situated on low land, and are subject to inundation during the rains. Drainage is defective.	Is taken from the river Jumuna, tanks and wells. The wells are polluted by bathing and washing being carried on near them, and the rivers by placing branches of trees with leaves in the water for the purpose of catching fish.	The houses, as a rule, are constructed of reeds or smashed bamboos plastered over with mud. They are not overcrowded, but their compounds are very filthy; and refuse, sweepings, cowdung, &c., are heaped behind every house. There are no latrines. Hindu dead are cremated on the banks of river, and the Mahomedan dead are interred within the compounds of dwelling-houses.
	Pabna—Town	...	13.75	32	418		15,267	The drainage is primitive and very defective. Excepting the bazar drains, all the rest of the numerous drains in this town are kutchas and deep. Most of them discharge into the Ichamutti river. Some of them are obstructed. The pucca drains are built over. During heavy floods the water lies in the drains, and the deposited silt destroys their levels.	Is taken from tanks, the river Ichamutti and wells. The tanks are defiled in many ways; the river becomes stagnant during the hot weather, and is used for all purposes when flowing; all the wells in the town are kutchas, excepting a well in the kutchery and four other wells recently constructed. The water of the kutchas is generally impure. The kutchery well and the four public wells which are now much resorted to contain, as they are well constructed and protected from pollution, good potable water; but these wells are insufficient to meet the wants of the people. Some of the well-to-do people obtain their supply of water during the hot weather from the river Ganges in carts. As the Ichamutti is fast silting up, water difficulty is apprehended.	Surface cleansing is attended to, sweepings being used to fill up excavations, but much remains unremoved. There is only one public latrine, so the people are compelled to resort for defecation to the fields adjacent to their houses. Only a few of the private privies are under municipal management. Well-privies exist. The night-soil is trampled, but in deep pits. Hollows and excavations, containing all kinds of refuse and stagnant putrid water, are numerous. The fluid refuse from houses is thrown into pits or allowed to enter the drains. There are no slaughter-houses.

Pubas - Baral ...	174,381	23'95	'13	'10	Same as in Seraiganj rural described above	Same as in Seraiganj rural described above	...	Same as in Seraiganj rural described above.
Doolai - Baral ...	186,363	.....	25'04	'59	'11			
Chatmohar - Baral	133,467	.....	28'08	'25	'03			
Mathura - Baral ...	102,496	.....	24'42	2'17	'19			
Shandpur - Baral	216,494	.....	20'13	2'08	'12			
Uthapara - Baral ...	171,711	.....	18'21	'01	'25			
Baiganj - Baral ...	92,374	20'66	'13	'08				

Darjeeling - Town...	7,976	25	8'14	.....	4'76	The general drainage of the town has been much improved and is good. Many new side-drains have been constructed and some of the old ones repaired and rendered efficient. The drains are kept clean. The house drains are generally connected with the street drains, and the defects in their construction are being rectified.	This town possesses an excellent water-supply obtained from natural springs, which are well protected from contamination and conveyed throughout the town in pipes. The supply is being extended. Some additional hydrants have been provided. Bathing places and dhoties' tanks have been specially provided.	General conservancy is well looked after in the town proper, but not so in the villages of Ghoom and Jorebungalow, which are very filthy. In the town proper street sweepings, &c., are removed in carts to the head of the wire tramway, and carried in buckets over the wire to a shoot below, and finally discharged down the kind. There are twenty-two public latrines for males and one for females, but their condition is not so satisfactory as it ought to be. All the private latrines are under municipal control, and are in good condition. The whole of the night-soil is trenched. Both interments and cremation are properly carried on in the grounds appointed for the purpose. The condition of the markets has been improved, but that of the two slaughter-houses is still very bad.
Darjeeling - Bazal...	45,300	04	11'31	'13	8'67	The country being situated on high hills, its drainage is good. Roadside drains are clean.	Is obtained from Jhoras (hill streams) and the river Runjeet. The water of the former is clean and good, but that of the latter is dirty and subject to every kind of pollution; its banks are used as latrines, in some places well water is also used.	Houses are built on raised ground and are of bamboo and wood thatched with straw. They have only one door and are ill-ventilated, but they are clean. No conservancy arrangements exist. Refuse and sweepings are left near houses or thrown down the kind. The roads are in fair order. People carry themselves in the nearest fields. Cattle are housed in a separate house within the enclosures of dwelling-houses; the sheds are clean daily, but they are damp. Dead cattle are buried or thrown away in the jungles. Dead bodies are buried in the jungles and on the hill sides or burnt on the banks of the river Runjeet. Habits of the people are very dirty.
Phashidewah - Bazal.	63,241	03	22'13	'07	1'01	Particulars regarding this thana are not yet available.		
Kureong - Town ...	36,837	1'37	33'52	'11	9'50	The drainage system is good. The street and house drains are kept in good order. No encroachments on, or obstructions to, bridges, culverts and waterways are permitted.	The water for all purposes is obtained from Jhoras (hill springs), which are well protected from contamination and conveyed throughout the town in pipes.	Surface cleansing is well attended to, and house scavenging is conducted by the municipal workers; sweepings, &c., being thrown down the kind. There are six public latrines and 25 private ones, and three urinals. The night-soil is buried in trenches at a distance from the bazaar. Ossipits do not exist. The arrangements for cremation and interments are satisfactory.

Particulars regarding this thana are not yet available.

Surface cleansing is well attended to, and house sweeping is conducted by the municipal mehtars : sweepings, &c., being thrown down the kind. There are six public latrines and 23 private ones, and three urinals. The night-soil is buried in trenches at a distance from the bazar. Cesspits do not exist. The arrangements for cremation and interments are satisfactory.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.	
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
Darjeeling	Kurseong—Rural...	29,657	1.37	33.52	11	9.20	No special information is yet available	Is taken from jhoras (hill streams) the water of which is clean and good.	Conservancy totally absent. Filth and rubbish accumulate near houses. People defecate in the jungle. The roads are clean and in fair order. Dead bodies and cattle are buried in the jungles. Sometimes dead bodies are burnt. Cattle-sheds are separate but within the compounds of dwelling-houses; they are cleaned daily.
	Kalimpong—Rural.	12,083	.....	6.91	07	2.63	Drainage is free, as there is hardly any level land. In the rains the surface water finds its way into the springs, from which the drinking water is taken.	Is taken from jhoras which, although their beds contain a considerable quantity of decaying vegetable matter, afford water of fairly good quality.	Houses are crowded together and ill-ventilated. With the exception of those occupied by Bhutias, they are clean. Conservancy is absent. Refuse and sweepings are left near houses or thrown over the Khuda. Roads are in good condition and are clean. Defecation is carried on in the jungles. Cattle are kept in a separate house within the compounds, and the sheds are clean. Dead bodies and cattle are buried in jungles outside the bushes and away from water-courses. Travellers' rest-houses and the slaughtering grounds are in fairly good condition, and are kept clean.
Jalpaiguri	Jalpaiguri—Towns...	7,947	.....	8.30	1.25	0.3	The natural drainage of the town is not good. The country being flat, is liable to inundation. The drainage system is very defective and is interfered with by numerous pits, hollows and ponds, although almost all the roads are provided with side-drains.	Is taken from the rivers Teesta and Kuria, and from wells and tanks. Measures are taken to prevent the fouling of the banks of the river Kuria. There are three private tanks and three wells reserved for drinking purposes. Of the former, the one called Kajbari tank is well protected, while the other two are subject to every pollution, and receives the drainage of the town. The latter are not properly protected. The condition of the private wells, which are large in number, is bad.	The conservancy arrangements of the town have been much improved, but are still susceptible of further improvement. General conservancy is fairly well attended to. The surroundings of houses are not, however, what they should be. The fluid house and kitchen refuse is not properly disposed of, but is allowed to soak into the ground within the premises. Cow and cattle ordure is also collected near houses for manure. There are seven public latrines—four for males and three for females—in fair condition, but they are not quite sufficient for local requirements. About one-third of the people have private privies of their own, which are cleaned daily by municipal mehters, and are in good condition. The night-soil from both the public and private privies is trenched in grounds set apart for the purpose. The arrangements for interments and cremation are satisfactory.
	Jalpaiguri—Rural...	67,471	.....	27.86	2.13	0.25	The natural drainage is pretty good, but in some villages it is defective. Those of the villages which are situated on high land are not subject to inundation.	Is taken from kutcha wells, which are mostly dug under bamboo clumps. Their mouths are not protected. Washing and bathing are performed near them, and their surface is always damp and dirty.	Houses are substantially built and well ventilated. They are daily cleaned, but their floors are damp. Sweepings and refuse are thrown into the nearest fields. Defecation is carried on in the nearest fields. There are no high roads, but the small paths are clean. Cattle are kept in a separate shed within the compounds of houses. Cattle sheds are clean. Dead cattle are buried outside villages or are thrown away. Dead bodies are buried outside the village and on the sides of the Godadhar river.
	Sikarpur or Sili-guri—Rural.	80,178	.....	26.15	1.19	0.44	More or less the same as in Jalpaiguri rural described above.	Is taken chiefly from kutcha wells, some of which are near cesspits. The water of these wells is not above suspicion.	The house floors being damp, the people sleep on mats. The footpaths are not dirty, but filthy excavations exist. Villages are overgrown with jungle. No conservancy arrangements exist. The dead are disposed of outside of villages.

Boda-Zawal	178,643	.....	83'44	1'52	73	Drainage is defective, but one village, Jagdah, is fairly drained.	Is taken from rivers Atrai and Tungan and wells, the water of which is said to be good.	The houses are damp. The footpaths are clean. No conservancy arrangements exist. In village Jagdah there are men who clean the lat held there twice a week. The dead are disposed of outside of the villages.
Paggram-Zawal	64,686	.....	24'32	1'20	.....	Villages are situated on low land, and are subject to inundation during the rainy season.	Is taken from wells the water of which is good and pure. Their mouths are not protected, but their margins are raised.	Houses are substantially built and are not crowded together. Their floors are damp, but the people sleep on <i>machans</i> . Refuse, &c., are thrown in the fields for manure. There are no high roads; the small paths are clean. The nearest fields are used as latrines. Cattle are housed separately and the sheds are cleaned daily. Hindu dead are cremated on the banks of the rivers Dalah and Sonarani, the water of which is not drunk; the Mahomedan dead are interred near houses.
Mynaguri-Zawal	68,451	.....	39'05	2'38	77	Some of the villages are on high, and some on low land. The former are not liable to inundation, but the latter are under water during the rainy season.	Is taken from kutchha wells, which are mostly situated under bamboo clumps. Their mouths are not protected, and their surface is always damp, washing and bathing being performed there.	The houses are raised, but their floors are damp. Sweepings and refuse are kept in the compounds. Defecation is carried on in the nearest fields. There are no high roads; the small paths are clean. Dead cattle are buried in the nearest fields in the dry season, but during the rainy season they are thrown away in the most convenient place. Sometimes dead bodies are buried in the fields and sometimes they are burnt near hollows in the fields.
Alipur-Zawal	32,086	73	23'30	6'52	15	The villages being situated on somewhat elevated land, are not subject to inundation, and are fairly drained.	Is taken from kutchha wells, which are also used for bathing and washing purposes. Their mouths are not protected, and the surface is always damp.	Houses are substantially built and are far from each other. Their floors are damp, but the people sleep on <i>machans</i> . Sweepings and refuse are thrown into the nearest fields for manure, and are also kept close to houses. There are no high roads. Small paths are clean. Cattle are kept in separate sheds, which are clean. Dead cattle are thrown out of the village. The nearest fields are used as latrines. Hindus cremate their dead on the banks of the Karami and Goudhar rivers. Mahomedans bury their dead near their houses.
Kemuti-Zawal	32,453	.....	29'33	1'57	.....	Drainage is defective. Villages are situated on low land, and are annually flooded by the Teesta river. The water remains in some places for two or three months. Roadside drains are deep and are obstructed.	Is taken from the river Teesta during the rains, and during the dry season from the kutchha wells.	Houses are low and damp, but the people sleep on <i>machans</i> . Sweepings and refuse are thrown into the nearest fields, which are also used as latrines. There is no high road, but the small paths are clean. Dead cattle are buried by the sides of the villages. Hindus burn their dead on the banks of the river Teesta and Debi-Jhora. The lower classes bury their dead at the outskirts of villages.
Dhepnuria, Salbaree including Falcata-Zawal	51,027	.....	28'09	5'26	19	Drainage is good. Roads are provided with side-drains, and they are free from obstruction.	Is taken from river Baidanen and from kutchha wells. In the dry season there is only half a foot of water in the wells, and the people have to obtain their water-supply by digging the wells daily. The mouths of the wells are not protected, and their surface is always damp, bathing and washing being performed there.	The floors of houses are damp, but the people sleep on <i>machans</i> . Refuse and sweepings lie near houses or are kept in pits for manure. The nearest fields are used as latrines. Dead cattle are buried in the nearest fields outside villages. Hindu dead are cremated on the banks of the rivers Doodach, Birputti, and Kalandi, and some are buried in the fields. Mahomedan dead are interred in their own fields near their houses.

SANITARY ESTIMATES OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Rever.	(Cholera.	Howel-com- plaints.			
Dacca	Dacca - Town	80,181	0.1	5.0	1.24	2.17	Is very defective and unsatisfactory. There are no drains at all in several places, and imperfect ones at others which are allowed to get choked with rubbish, and are therefore of no practical use during a greater part of the year. The drainage outlets are in some cases not free. The condition of the house drains is very bad.	The town possesses an admirable system of water works, but it does not supply the want of the whole place, a third of which is still without filtered water. In the latter case water for drinking and domestic purposes is obtained from tanks and wells that are more or less open to pollution. The river water near the brick is necessarily impure from the various agencies incident to passage by a large town.	The conservancy arrangements continue to be very unsatisfactory. General cleansing is not properly attended to, and accumulations of rubbish and other offensive matter are to be seen here and there. The public latrines of the houses are as a rule dirty. The public latrines are fairly well kept, but the present ones are manifestly insufficient for local requirements, and the need for providing more of these conveniences, and separate ones for females, is very strongly indicated. The condition of the private privies, most of which are badly constructed, is still very far from satisfactory. Some of the abominable well-privies and gors have been removed, but many still exist. The night-soil from the public privies and such of private ones as can be cleaned, are disposed of in deep trenches. Promiscuous defecation is still carried on. The arrangements under the heads of disposal of the dead and mortuaries and slaughter-houses are as unsatisfactory as before.
	Koraniganj - Rural	1,64,287	0.6	14.35	1.81	35	Is effected by means of khals and nullahs. The position of the thana, lying on the Dacca side of the Buriganga river, is much higher than that lying on the opposite side between this and the Dhabawari river. The villages comprised within the latter are subject to annual inundations.	Is obtained from rivers, khals, nullahs and tanks according to the convenience of the people.	As a rule, the houses are crumpled together and surrounded by deep trenches filled with water, and overgrown with aquatic plants. The villages also abound in other filthy excavations. The growth of trees in and around the compounds of houses is very great. Surface cleansing is sadly neglected. Those villages that are overcrowded have machans and other kinds of latrines, rudely built on khals, gors, &c.
	Narsingganj - Town	12,561	.....	6.13	8.27	2.86	Is fair. With a few exceptions, all the drains are kutchas, but are kept in proper order. Lately pucca shallow drains have been provided along some of the roads, and the system is being gradually extended.	Is obtained from two reserved tanks, khals, and the river Sital Lathi. There are also numerous private tanks, most of which are in a foul state and require to be got rid of.	The conservancy arrangements are, on the whole, very fair. Surface cleansing is well looked after, but find house refuse is in some cases improperly disposed of. There is an excellent set of corrugated iron latrines of Hornbary's pattern, but the existing ones are not sufficient for local requirements, and more are wanted at places. The private latrines are still defective. They are, however, being kept properly cleaned by municipal mehtars. The night-soil from both the public and private privies is buried in deep trenches. The arrangements under the heads of markets and slaughter-houses admit of considerable improvement.
Dacca	Narsingganj - Rural	91,89	.....	11.73	1.87	1.35	Some of the villages stand on high, and some on low ground. The former are not liable to inundations. Most of the villages are riddled with holes and ditches filled with water and reeking with decaying vegetation.	Is taken from tanks and wells, and in some cases from the rivers Lakhya and Lisamati.	The houses are kutchas, but in some villages they stand on raised dry floors. Surface cleansing is almost nil. House-sweeping, &c., are collected within the compounds. The cowsheds are generally in a filthy state, and the smell from these places, as well as from rotten haystacks, is offensive. The Hindu dead are generally burnt, and also occasionally thrown into the river while the Mahomedans generally bury their dead in house compounds.

Manikganj—Rural	1,84,186	.....	15'58	2'32	1'06	Is defective. Some of the villages are liable to be inundated, and as soon remain water-logged for several months during the year.	Is taken from tanks, khals, and rivers. In some villages difficulty is experienced as regards water-supply.	The villages generally consist of several groups of raised homesteads surrounded by deep trenches, more or less filled with water. No conservancy arrangements. Cow-dung and other refuse matters are heaped up within house premises; where also the dead are buried in the case of the Mahomedans.
Kapasia—Rural	119,515	'03	19'53	1'40	'48	Is fair in several instances, specially in the villages bordering on the Blawal jungles: the land being naturally undulating, higher in some places, and lower in others.	Is taken from tanks, bhis, khals and rivers. In some places difficulty is experienced as regards water-supply in the hot season.	The house plinths are generally raised, but are in some cases rather damp. The courts are clean; so are also some of the compounds; but the cow-sheds are mostly dirty. The people resort to jungles, &c., for defecation. The Hindu dead are occasionally thrown into the river, but the Mahomedans usually bury their within house enclosures.
Rugganj—Rural	164,120	'02	18'58	2'20	'37	Almost the same as in thana Raipura, the sanitary condition of which is described below.	Almost the same as in Thana Raipura, the sanitary condition of which is described below.	Almost the same as in thana Raipura, the sanitary condition of which is described below.
Munshiganj—Rural	249,463	...	10'03	3'82	2'03	Most of the villages are situated on a low level, and are consequently subject to annual inundations. They abound with filthy holes, excavations, and pors that have been dug up for taking earth for raising plinths of houses.	Is derived from tanks and the rivers Megna, Dhalkeshwar and Padua.	Many of the villages are thickly populated. The houses are in most instances well raised, and the courtyards are kept fairly clean. The excavations and the ones mentioned before are used as receptacles for all sorts of house-refuse. In many instances kirmes are built over them, and the night-soil is allowed to accumulate, and putrefy there, thus converting them into hotbeds of malaria. The Mahomedans bury their dead in the compounds of their houses.
Srinagar—Rural	275,994	.....	6'42	5'33	2'83	Many villages are situated on raised chur land, which gradually slopes down towards the west. They are easily drained.	Is obtained from tanks, khals, and the river Dhaleshwari. Many of the tanks are foul and dry up in the hot season.	Many villages are covered with trees, jungles, and bamboo clumps which obstruct air and sun. General conservancy is badly attended to. The house surroundings are generally dirty. The Mahomedans bury their dead in the compounds of their houses.
Harirampur—Rural	100,009	.....	13'90	1'79	'47	Many villages are situated on high ground, and are free from excavations, and consequently surface drainage is not interfered with.	Same as in Nawabganj, but it is also taken from wells, the water of which is brackish.	Same as in Nawabganj, but the manner of housing cattle and disposing of refuse is the same as in other thanas.
Shabbat—Rural	174,531	'01	13'53	2'44	1'02	Part of this thana, consisting of Phaulpur, Tarapur, and several other villages, is higher than thana Karamganj. Here the villages stand on comparatively level ground, are drained by means of khals and ditches, and are much drier than the other villages of this thana.	Is taken from tanks, khals, bhis, and the Dhaleshwari river.	The houses of the people are generally badly constructed and ill-ventilated. In many cases clumps of trees grow around them and keep the rays of the sun from the surface of the soil. General conservancy is not much thought of. The house surroundings are dirty.
Rajpura—Rural	202,738	.....	17'17	1'21	'02	Is generally to the nearest ditch or hollow which abounds in the villages. The general level of this part of the country being low, some of the villages are subject to annual inundations of the rivers Megna and Haridhwa.	Is generally obtained from tanks, and in some cases from the rivers Megna and Haridhwa. The majority of the tanks are in a bad state, and quite sleeping is extensively carried on in the latter river.	Is badly attended to. House-sweepers, &c. are allowed to accumulate and rot in the compounds of houses, where too, cow-dung is generally stored up for manuring purposes. Very few people have privies of their own; they resort to the neighbouring jungles and waste lands for purposes of nature. The Mahomedan dead are mostly buried within house premises.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Small-pox.	Fe-ver.	Cholera.	Bovel-com-plaints.		Drainage.	Water-supply.	Domestic cleansing.
Lacca ...	Nawabganj—Rural ...	...	1027	371	145	161,235	Is generally defective, and flows into the nearest holes and ditches. Several villages are situated on low land, and consequently become water-logged during the rains.	Is taken from tanks, khals, and the Isamati river. Their tanks are extensively flooded. Decaying vegetation is very great in many of the tanks.	The houses generally stand on raised floors, but are in most cases surrounded by trees and bamboo clumps, which obstruct the free passage of air and light. The compounds are often dirty, and housesweepings, &c., are collected within many of them. The people defecate in jungles and other convenient places. The Mahomedan dead are mostly buried in house compounds.
	Jaffarganj—Rural ...	....	1829	244	54	143,012	No special account of the sanitary condition of the villages in this thana is yet available.		
Faridpur	Faridpur—Town ...	70	653	53	204	10,233	Is fair and has lately been improved: the water now passes freely through the various parts of the town. But almost all the drains being kutche, many of them silt up during the rains, and have to be opened out and levelled every year.	Is taken from khals and the river, both of which have much silted up at places. There is therefore considerable scarcity of good drinking-water during the dry season. Only five fairly protected tanks belonging to the Municipality have been reserved for drinking. There are numerous private tanks that are, with a few exceptions, in a very bad state. Some of these require re-excavation and some filling up	The conservancy arrangements are defective. The establishment being insufficient, surface cleansing is imperfectly carried on, and much filth and rubbish remain unremoved here and there. The solid and fluid refuse from the houses are in most cases disposed of within the compounds; where, too, dung, &c., are stored up for manuring purposes. There is only one public latrine, and more are required at convenient places. The private privies are cleaned by municipal men. Some daily and some every other day. The night soil from the public and the private privies is buried in deep trenches, which is objectionable. Moreover the present trenching ground is in no way suitable. It is within too short a distance of the public school and the site is also so low that it remains under water for at least three months of the year. The arrangements under the head of disposal of the dead are very unsatisfactory.
	Faridpur—Rural ...	...	732	136	70	51,295	Is as usual defective. Several villages are situated on char land and are thus subject to annual inundations which sometimes submerge the court-yards of the houses.	Is taken from tanks, large bills called <i>baora</i> , and the river Bhulanshur.	Little attention is paid to personal and general cleanliness. The house compounds and the cowsheds are generally very dirty. Among other places the village roads are sometimes used as latrines. The Mahomedan dead are usually buried within house enclosures.
	Blasura—Rural ...	....	1354	112	74	107,415	No special account of the sanitary condition of the villages in this thana is yet available.		
	Awampur—Rural ...	....	1091	85	94	190,237	Some of the villages are situated on high and some on low bil land. The former are fairly well drained. Some villages are liable to inundations.	Is derived from tanks, bills and the river Kumar. In some villages want of good water is severely felt.	The houses generally stand on raised, but in many cases damp floors and the spaces around them are often covered with trees and bamboo clumps. The compounds and cowsheds are mostly dirty. Little attention is paid to conservancy matters. The Mahomedan dead are usually buried within house premises.

Bhanga - Rural	164,830	000	10'06	2'59	'65	Is fair in some villages and generally bad in those that are situated on char land. In the latter case the villages are liable to inundations and stagnation and water-logging occur.	Is taken from tanks, wells, khals, and the rivers Bhutaneshur and Aral Khan.	The house floors are in some cases raised and in some cases not, and are generally rather damp. Some villages are densely shaded by trees bamboo clumps and jungles, which prevent free persifation and drying up of the surface. The court-yards are somewhat clean, but house surroundings are often very filthy. In some villages rudely constructed privies are used, but the soil is never removed from them. Burials within house premises are usually carried on by the Mahomedans.
Mukundpur - Rural	126,933	.....	9'81	5'04	'05	Surface drainage is greatly interfered with by holes and ditches and other excavations. Some of the villages are liable to be annually inundated.	Is taken from hills and the river Kumar, and sometimes from tanks. In several villages there is great difficulty, as regards water supply. Holes are temporarily dug in low places and hollows, and the water obtained from them is used for washing and other purposes, but not for drinking or cooking purposes.	Many villages are densely covered with trees and jungles which give shelter to wild hogs and other animals. The dwellings stand on raised but rather damp floors, and are in many instances crowded together and badly ventilated. The compounds are mostly very filthy. Dung and house-refuse are heaped up within them, sometimes on the surface and sometimes in pits dug for the purpose. No attention is paid to conservancy matters, and the people seem to have no idea of the advantages of cleanliness. The condition of the cow and cattle sheds is bad. Defecation is carried on at all convenient places. The Mahomedan dead are usually buried within house compounds.
Madaripur - Town...	12,936	.....	3'73	6'4	'32	Is generally fair, and flows towards the Kumeri. At places, however, it is much interfered with by holes, hollows, and nals. Some of the outlying villages are subject to inundations.	Is from tanks, a khal on the west, and the river Kumar.	The floors of the houses are raised and dry. The spaces around the premises are rendered very dirty by throwing house-refuse into them. The cow-sheds are often in a filthy state. The people do not build privies, but resort to jungles, &c., for purposes of nature. Interments are carried on in house compounds.
Madaripur - Rural	128,619	.....	10'41	4'15	'33	Is obstructed by deep hollows and excavations, which are very numerous. Many villages are situated on char land and are subject to annual inundations. Several have no roads at all.	Is obtained from tanks, hills, khals and the river Kumar. In some villages the want of good water is considerably felt.	The homesteads are generally well raised, but are built without due regard being paid to ventilation, and are often surrounded by deep excavations originally made for taking earth, but many now reek with decomposed vegetation. The compounds are small and dirty, house refuse, &c., being disposed of within them. The Mahomedans usually bury their dead within the premises.
Kotalipara - Rural	66,153	45	9'37	5'20	'77	This thana forms the lowlands of Faridpur, and abounds in khals, nals, hollows and ditches. Some villages are situated on swampy ground and are damp, while many of the others become completely water-logged during the rains.	Is taken from tanks and khals, the latter receiving tidal water in many cases. In some villages considerable difficulty is experienced as regards water-supply in the hot season, when most of the khals dry up.	The house plinths are generally raised, and are in some cases dry. The compounds are mostly very dirty, dung and house refuse being disposed of within them. Conservancy almost nil. Some people use rudely built privies from which the filth is never removed, while the great majority of the inhabitants cases themselves wherever they like. Cremation is generally carried on at convenient places, but in some cases is also done within house enclosures during the rainy season. The Mahomedan dead are always interred within house premises.
Gopalganj - Rural...	85,341	.....	8'63	4'11	'25	Flows generally into the neighbouring holes and nals. In some cases it is effected by means of nals and khals, some of which are tidal. Many villages are situated on low ground and become completely water-logged during the rains; some, with the exception only of the homesteads, remaining under water for a considerable time.	Is obtained from tanks, nals, khals and the river Madhumati. In some places the water-supply is deficient.	The houses generally stand on raised dry floors, but are rather crowded together, obstructing ventilation. The compounds are small and very dirty. Dung and house sweepings are in most cases accumulated within them. Very little attention is paid to personal cleanliness. The clothes worn by the people are literally saturated with oil and dirt. The people defecate wherever they like, even the village footpaths are sometimes fouled. The Hindu dead are occasionally cremated within house enclosures; but the Mahomedans as a rule bury their dead in the compounds of their houses.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF —

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Howel-com-plaints.			
Faridpur	Shibpur—Rural ...	116,948	01	7.91	3.87	12	Surface drainage is seriously obstructed by deep pits and excavations. Some of the villages are liable to inundations, and become water-logged during the rains.	Is obtained from tanks, wells and the river Ariakhan.	The homesteads are generally raised, but their floors are rather damp. Many houses are densely covered with trees, bamboo clumps, and jungles. The court-yards are kept somewhat clean, but the spaces around the houses are in most cases very filthy. Much and other kind of privies are used by some, the filth being allowed to accumulate in them, while the great majority of the people resort to jungles and other convenient places for purposes of nature. The Mahomedans bury their dead within the compounds of their houses.
	Palong—Rural ...	258,250	.....	9.21	4.73	40	No special account of the sanitary condition of the villages in this thans is yet available.		
	Goalundo—Rural ..	106,050	02	8.08	4.66	..	Some of the villages are situated on elevated and some on low ground. The latter are liable to the inundations of the Pudda river, and become much water-logged during the rains.	Is taken from tanks, wells and the river Pudda. In some villages there is considerable difficulty as to water-supply.	The houses generally stand on raised floors, but are in most cases badly ventilated and surrounded by trees. Conservancy almost nil. The compounds are dirty, and often contain heaps of rubbish, dung, &c. Promiscuous defecation is carried on at places convenient to the people. The Mahomedan dead are usually buried in house compounds.
	Pangsa—Rural ...	130,866	.....	8.78	1.22	21	Flows towards hills, rivers, and the rice-fields according to the situation of the villages, and is, as usual, defective in the case of the low-lying villages, most of which are subject to inundations.	Is obtained from tanks, wells, hills and the rivers Chaulana and Chataru.	The houses are generally well raised, but are often surrounded by trees which considerably obstruct the passage of air and light. The courtyards themselves are in many instances clean and dry, but the spaces around them are used as repositories of all sorts of filth and house-refuse. Defecation is carried on wherever convenient to the people. The Mahomedan dead are usually buried within house enclosures.
	Baliakandi—Rural	65,069	.....	18.01	04	21	No special account of the sanitary condition of the villages in this thans is yet available.		
Backergange.	Burial—Town ..	18,186	.....	7.96	5.15	1.82	Is on the whole fair, and is effected by a number of tidal khais which intersect the town. The side-drains, which are, with two exceptions, kutcha, and generally deep, are connected with the khais, and are thus flushed during the ebb-tide and kept fairly clean. Some of the drains occasionally silt up and have to be re-opened.	Is from the river Barisal and from tanks, most of which hold river water. One or two tanks are specially kept for drinking, into which river water is not introduced.	The conservancy arrangements are not what they should be. Surface cleansing is fairly well attended to. The fluid refuse from the houses is not properly disposed of, but thrown somewhere within the premises. Cow-dung is also accumulated within house compounds for manuring purposes. There are three public latrines, but these are quite insufficient for local requirements, and more are wanted at places. The private privies are attended to by municipal members and kept fairly offensive. The night-soil from both the public and the private privies is buried in shallow trenches. The arrangements for the disposal of the dead are unobjectionable, but those relating to markets and slaughter-houses are not satisfactory.

Burisal—Zawal ...	113,733	'01	25-78	7-50	'07	Is in some places affected by khals and nalas. Some villages are liable to inundations, but the majority are situated on a comparatively high level.	Is obtained from tanks, khals and the Tengra khali nadi. Some of the khals are tidal and become almost dry at ebb-tide. The tanks and ponds are polluted in every way.	The house plinths are generally raised and dry. The compounds are in some cases spacious, but are full of trees and low jungles, and have house-refuse thrown into them. Very little attention is paid to the general cleanliness. Some use pieces of wood or bamboo placed over holes, branches of trees, and machans, as privies, while others resort to fields and jungles for defecation. The dead are either burnt on the banks of khals or buried within house enclosures.
Bowphal—Zawal ...	95,186	'03	13-99	2-93	'57	Is almost the same, but rather more defective than in Percepur rural described below.	Is obtained mostly from tanks which do not, as a rule, receive tidal water, and are not in fair order. Also from khals, which, however, are seldom resorted to for fear of the crocodiles that infest them.	The same as in thana Percepur described below, with this exception, that the compounds of the houses are dirtier in this thana.
Nalchitti—Town ...	3,653	.....	1-36	3-01	'27	No special account of the sanitary condition of the villages in this thana is yet available.		
Nalchitti—Zawal ...	75,398	'02	25-58	5-59	'10	Drainage is defective. The ground being low, the villages are always inundated.	Is taken from tanks, which are numerous, but none have been reserved exclusively for drinking, and almost all are polluted in the usual way, and, in addition, by the existence of trees, and by ferment and fermentation taking place on their banks, and by defecation in them from overhanging branches of trees during the rainy season.	The habits of the people are filthy. Houses as in Mendhigan. Thick jungle abounds, and, to obviate the great dampness of the place, the houses are raised on plinths. The arrangements connected with conservancy, sweeping, refuse and defecation same as in Mendhigan rural described below. There are numerous pools and ditches full of vegetation and stagnant water. The dead cattle are treated in the same way as in Burisal.
Percepur—Town ...	4,445	'45	31-93	11-24	'44	No special account of the sanitary conditions of the villages in this thana is yet available.		
Percepur—Zawal ...	113,192	'11	11-34	3-03	'28	Is effected by narrow drains like khals, most of which receive tidal water throughout the year. Many of the villages are situated on low ground, and are more or less submerged during the rains, when the water enters even into the courtyards of houses.	Is obtained chiefly from the tidal khals and also from tanks which, as a rule, receive tidal water. The khal water becomes brackish in the middle of December or the beginning of January, and remains so till the rainy season sets in.	The habitations of the people are kutcha with loose in gha mats and split reed mats, and are arranged in groups of three, four or more houses, and surrounded by coconut, betel-nut and other fruit trees, which greatly interfere with free circulation of air and drying up of the surface. The courtyards are daily swept, and occasionally kept with cowdung and earth mixed together, and the sweepings, etc., are accumulated at some distance from the houses on the sides of the khals or in small pits close by. The people resort for purposes of nature to the most convenient place. The Mahomedans bury their dead within the compounds of their houses, and sometimes on the banks of tanks.
Jhalolati—Town ...	4,983	.....	4-02	1-51	'40	Is defective. Some deep and square-shaped pucca drains have been constructed, but they are without proper outlets, and with parts independent of one another. They are generally full of rubbish, and in some cases slush. A regular drainage system for the town is required.	Is from tanks and rivers. The water from the latter may be advantageously introduced into the former.	General conservancy is bad, the establishment entertained to look after it being inadequate. Much rubbish lies strewn about everywhere. The bazar is in a filthy state.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Rever.	Cholera.	Bowel-com-plaints.			
Backergunge	Jhalokati—Rural ...	138,448	'04	19'39	4'21	'27	Almost the same as in thana Perozepur described above. There are numerous khals, and communication from house to house is carried on in boats or bamboo rafts.	Is taken from small narrow khals, which are numerous. The supply is bad and insufficient. In addition to the usual modes of defiling water, carcasses are cast into the khals, and people defecate into them from overhanging branches of trees, and bury their dead on their bank.	The houses generally stand on raised and but partially dry pinths, and are in many cases surrounded by cocoanut, betel-nut and other fruit trees and jungles, which considerably obstruct air and light. House-refuse, &c., are not properly disposed of, but are thrown somewhere within the compounds, which are mostly dirty. The people generally use branches of trees overhanging khals, palas, &c., as privies; the soil being allowed to accumulate unless washed away by the tides. Burials are usually carried on within house enclosures.
	Bhandaria—Rural	73,352	'25	15'37	9'70	'23	The same as in thana Perozepur described above.	The same as in thana Perozepur described above.	The same as in thana Perozepur described above, with this exception, that the house compounds in this thana are dirtier.
	Barhamedy—Rural	89,061	'04	22'03	1'79	—	Particulars regarding the sanitary condition of the villages in this thana are not yet available.		
	Golaclips—Rural ...	59,037	'03	20'41	7'55	'74	Is almost the same, but rather more defective than in thana Perozepur described above.	The same as in thana Bowphal described above.	The same as in thana Perozepur described above.
	Gournadi—Rural ...	134,102	'01	15'43	1'37	'27	Some of the villages are situated on high and some on low chur land. The latter are liable to inundations. The drainage of the former is pretty free; that of the latter is not.	Is taken from tanks, tidal khals and rivers, but all are, as usual, subject to pollution, and corpses and carcasses are thrown into them.	The dwellings consist of straw-built huts, and stand on dry floors. The compounds are mostly dirty and unfidy, and have house-sweepings, &c., thrown into them. Very few people build privies; the great majority ease themselves in jungles and other convenient places. The Mahomedans bury their dead within house compounds.
Mendhiganj	Mendhiganj—Rural	145,711	.....	24'47	3'85	'52	Is defective and much interfered with by hollows, ditches and dalas, which abound in many villages, and which are more or less overgrown with rank vegetation. Several villages are situated on low land, and are liable to inundations.	Is taken from tanks, khals, and the rivers Jayanti, Ariakhar, Wegna, and Krishnaganj. Many tanks dry up in the hot season. In some places the people complain of the deficiency of the water-supply.	The houses are in many places crowded together, and their front portion is often brought down so low as to seriously obstruct ventilation and passage of light. Their floors are raised, but are, as a rule, damp. The people are filthy in their habits. The compounds are mostly dirty (especially those in which oil-mills are worked), and so are the cow-sheds. House-sweepings, &c., are thrown about the premises. The people use branches of trees as privies. Burials are usually carried on in house compounds within which cremation too sometimes takes place.
	Bacherganj—Rural	135,308	'04	20'38	6'35	'46	Almost the same as in Mendhiganj described above.	Is taken from rivers and tanks. Dead cattle are thrown into the former, and the latter are in a bad condition. Cremation and interment take place on their banks.	The habits of the people are filthy. Houses as in Mendhiganj; jungle abounds. Some of the ditches contain vegetation and putrid water. Conservancy, disposal of sweepings and refuse, and defecation same as in Mendhiganj. Dead cattle are treated in the same way as in Burisal.

Bhola—Bural	123,109	'01	15'18	1'14	'27	Is generally defective, and is much interfered with by holes, nalas, gors, and other excavations. In some places it is effected by means of khals. Many villages are situated on low chur land, and are subject to inundations.	Is taken from tanks, tidal khals and rivers. No further information supplied.	The houses are in many villages scattered, and have spacious compounds, in which are grown fruit and other trees which materially obstruct air and light. Their floors are generally raised. Conservancy almost nil. The house surroundings are mostly filthy. Some people use machas, privies, and some resort to fields, &c., for defecation. The dead are generally burnt or buried at the outskirts of villages and in banks of tanks and khals.
Patuakhali—Bural	173,801	'10	13'60	7'86	'29	Is almost the same, but rather more defective than in thana Perozepur described above.	The same as in thana Bowpahal described above.	The same as in thana Perozepur described above.
Sharupthali—Bural	160,294	'01	15'09	2'17	'16	Is in some cases fair, and is effected by means of khals and nalas, most of which are tidal. Several villages are situated on low land, and are subject to annual inundations.	Is obtained from tanks, khals, and the river Madhumati.	The plinths of the houses are mostly raised. The compounds are kept somewhat clean. General conservancy almost nil. Some people use rude kinds of privies built on khals, nalas, &c., in which the filth accumulates until washed away by the tides.
Gulshakhali—Bural	98,732	'05	15'03	7'39	'34	Is almost the same, but rather more defective than in thana Perozepur described above.	The same as in thana Bowpahal described above.	The same as in thana Perozepur described above.
Matbaria—Bural	96,032	'04	14'10	6'39	'24	The same as in thana Perozepur described above.	The same as in thana Perozepur described above.	The same as in thana Perozepur described above.

Backergunge

Jamalpur—Town	16,001	'06	16'03	'18	'03	Is fair and flows towards the bhils and the rivers. The drains are kept fairly clean.	Is taken from wells, khals, and the rivers Brahmaputra and Jhenai. Two wells have been lately constructed and reserved for drinking.	General conservancy is imperfectly attended to. The old public latrine which was burnt down last year has been rebuilt. No arrangement has been made for the proper disposal of night-soil from the public and the private privies.
Jamalpur—Bural	186,238	'03	13'66	'62	'19	Particulars regarding the sanitary condition of the villages in this thana are not yet available.		
Kishoreganj—Town	12,896	.....	5'73	2'36	'31	Drainage is defective. The kutchas drains carry off only a portion of the water to the Naranda river and the bhils.	Is taken from the river Naranda, which, however, is reduced to a chain of pools in the cold weather. Even in the height of the rains it is choked with vegetation. The water of tanks, of which seven belong to the municipality, is also used. The cleaning and deepening of tanks is always attended to. A big tank is being excavated at a probable cost of Rs. 1,000 for improving the local water-supply.	The sanitary condition of this town is bad. Surface cleaning is not properly and regularly attended to. What refuse and garbage are collected are employed in filling up pits. There are no public latrines. Menstrual matters are not locally procurable, so the people have their privies cleaned as best as they can, which means that they are generally in a filthy condition.
Kishoreganj—Bural	122,705	.....	12'35	1'75	'60	Is generally defective, and in many instances much obstructed by holes and debris. Some villages are situated on chur land.	Is taken from tanks, khals, bhils and the river Brahmaputra.	The houses are in many cases fairly well ventilated, and their floors are generally raised and dry. The compounds are somewhat clean, but dunghills are to be found in some of them. The people resort to jungles and other convenient places for purposes of nature. Internments are usually carried on within house enclosures.

Mymensing

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Howel-corn.				
Mymensingh	Tanjail—Barai ...	704	950	783	738	442,119	The villages that are situated on elevated ground are fairly well drained and are dry. In the case of the others it is defective. Some of the villages are liable to inundation.	Is taken from tanks, khals, and the rivers Jumuna and L-harung. In some villages there is great difficulty as regards proper water-supply.	House floors are generally raised and dry. There are few trees in and around the houses, so perfusion of air is free. The compounds are small and dirty, and dung is accumulated near cow-sheds in the rainy season, being only occasionally used as fuel, but rarely as manure.
	Nasirabad—Town	...	571	775	492	10,561	Is very defective. In August the greater part of the town becomes water-logged and quite swampy, making the houses and their surroundings a very damp. Most of the drains are kutchra and have insufficient cuttings. A complete scheme of drainage is to be gradually carried out.	Although the river old Brahmaputra runs past the town, the people prefer to take their water from stagnant tanks, some of which are re-served for drinking purposes, but others are also used which are in a bad condition, being generally covered with vegetation during the hot season. The banks of the river all along the town, extending the length of the civil station, are used for defecation. Private privies also line them. The present water-supply is very deficient in places removed from the river.	The conservancy arrangements are in some respects still very defective, the establishment being insufficient. Surface cleansing is very imperfectly done, and the town is full of unremoved rubbish and crowding. There are three pucca and two khaki public latrines that are in fair order, and more of these conveniences are required at places and separate ones for females. The private privies are attended to by municipal menials and kept tolerably clean. The night-soil from all the public and private privies is disposed of in shallow trenches. The arrangements under the head of markets and slaughter-houses are fair, but those relating to disposal of the dead, as far as interments are concerned, continue to be very unsatisfactory.
	Murtasgacha—Town	...	1071	372	793	4,395	The general level of the town being low, some places remain submerged during rains. The roadside drains are defective. Some are too shallow and some too deep to serve their purposes properly. Some roads have no side-drains at all. An improved system of drainage is required here.	Is taken from tanks, wells and the river Aima. Only one tank has been reserved for drinking. The others are generally covered with decaying vegetation, and are in a more or less foul state. Their tanks are also largely fouled. Some more tanks require to be reserved for drinking only. The wells are imperfectly protected from pollution through their mouths.	There is no arrangement for the proper disposal of sewage and house rubbish which are collected anywhere convenient to the owners. The cow-sheds are mostly filthy, and dung is accumulated within the premises, where it rot till removed for manuring purposes. Lately one public latrine has been provided, but it is not kept clean. More of these conveniences are required at places. The condition of the private privies was not satisfactory. The soil from these places are buried anywhere. The arrangements under the head of markets and slaughter-houses are defective. The Hindus burn their dead on the bank of the river Aima, while the Mahomedans bury theirs near houses.
Fulpur—Barai ...	Mymensingh—Barai	701	1673	1708	792	287,890	Is defective. Some of the villages are situated on high and some on chur land. The latter abound in hills, dubs, &c., that are nothing more than depressions in the old abandoned bed of the Brahmaputra. Some villages have roads, but without side-drains.	Is derived from tanks, wells, khils and the rivers Brahmaputra and Maitam.	The dwellings of the people are scattered, have slightly raised floors, and are dry when not shaded by trees. The compounds are, as usual, dirty, and dung is to be seen in most of them. In some villages the people have private latrines, some of which are pucca and some are rudely built over kora, &c., the filth in the latter case being allowed to accumulate in them. The Mahomedan dead are generally interred within house enclosures.
	Fulpur—Barai ...	701	1538	759	771	114,467	Particulars regarding the sanitary condition of the villages in this thana are not yet available.		

Is fair where the villages are situated on the banks of rivers. The villages in this thana are not usually subject to inundations.	Is fair where the villages are situated on high and some on low land. The former are not subject to inundations, and the drainage from them is somewhat fair. Some villages have roads, but without side-drains.	Is taken from tanks, wells, khals, and the rivers Brahmaputra and Bankhera.	The house plinths are generally raised, but somewhat damp. The compounds are small and dirty. Conservancy nil. The Mahomedans bury their dead in house compounds.
Is fair where the villages are situated on high and some on low land. The former are not subject to inundations, and the drainage from them is somewhat fair. Some villages have roads, but without side-drains.	Some villages are situated on high and some on low land. The former are not subject to inundations, and the drainage from them is somewhat fair. Some villages have roads, but without side-drains.	Is taken from tanks, wells, khals, and the rivers Brahmaputra and Bankhera.	The houses generally stand on raised dry floors, and are in many instances fairly ventilated. The compounds are un tidy. Cowdung is, however, mostly removed to the adjoining fields. The people defecate in waste lands and other convenient places. Burials are carried on within house enclosures.
Many villages are situated on high ground, and the drainage from them is fair. They are not liable to inundation.	Many villages are situated on high ground, and the drainage from them is fair. They are not liable to inundation.	Is taken from tanks, wells, and the Sheri nadi. As a rule, well water is of good quality.	The floors of the houses are generally raised and dry. The courtyards are kept fairly clean, and crowding is in many instances properly disposed of. The house surroundings are, however, often filthy and covered with low jungle. The people do not build privies, but defecate in fields and other convenient places.
Particulars regarding the sanitary condition of the villages in this thana are not yet available.	Particulars regarding the sanitary condition of the villages in this thana are not yet available.		
Is fair and is chiefly effected by the khal which passes through the town. The side-drains are kept fairly open.	Is from tanks and the khal. There are numerous private privies on the banks of the latter.		General conservancy is badly looked after. The condition of the private privies is unsatisfactory. A few lanes have lately been opened out through some of the most densely populated basia, and much jungle has been removed.
Many villages are situated on low land and are subject to inundations. Some villages have roads which serve the purposes of drains.	Is obtained from tanks and rivers. Most of the former are open to pollution and are in a bad state.		The floors of the houses are generally raised and dry. The compounds are dirty. No conservancy arrangements exist. The Mahomedans usually bury their dead within house enclosures.
Most of the villages are situated on high ground, and are not usually liable to inundation. There are, however, no khas, &c., to drain them.	Is taken from tanks and the river Dhamu. No further information furnished.		The houses are kutcha, but stand on very raised floors. The courtyards are kept clean, but beyond this conservancy is nil. Jungles and other convenient places are resorted to for purposes of nature, the filth being disposed of by natural agencies. The Mahomedan dead are generally buried in house compounds.
Is defective, except where the villages are situated on high ground. Some of the villages are liable to be annually inundated by the river Jamuna.	Is taken from wells, khals, and the rivers Jamuna and Sarasuti.		The house floors are generally high, but are rather damp. The compounds are small and dirty. Conservancy nil. Burials are carried on within house enclosures by the Mahomedans.
Some of the villages stand on high land, and are fairly well drained. In some drainage is very defective.	Is obtained from wells, khals, and the river Jamuna.		The house plinths are generally somewhat raised. The compounds are filthy; dung, ashes and other refuse matters are heaped up within them. No conservancy arrangements. The Mahomedan dead are mostly buried in house compounds.

District.	Name of circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.	SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—
		Small-pox.	Typhoid.	Cholera.	Howl-oom-plains.				
Mymensing	Netrokona—Towns ..	Data not available.				Is defective and flows towards the Bhethi bhal and the Shrai nadi. Some of the outlying villages are subject to inundations.	Is from dobas, tanks, and nadis ..	..	The house floors are mostly raised and dry. There are very few trees around the premises, and consequently ventilation is general & free. The courts are kept clean, but the compounds are very dirty. In some of the latter there are holes in which house sweepings, &c. are thrown. Footpaths are used as latrines. Burials are carried on within house enclosures.
	Netrokona—Rural ..	471,653	'02	9'25	'29	Some of the villages are situated on elevated and some on low bhal land. The latter are liable to be inundated. Many become water-logged during the rains. Some villages have roads, but without side-drains.	Is taken from tanks, bhal, khals, and the rivers Narunda and Betai. Jute sleeping is practised in khals and gors, and sometimes in bhal.	..	The houses are generally dry and have raised plinths. Their surroundings are, however, dirty, and house-refuse and cowdung are mostly collected in the open, and cast themselves. The Muslim dead are mostly buried within house compounds.
	Durrapur—Rural ..	116,457	.....	10'97	'03	Particulars regarding the sanitary condition of the villages in this thana are not yet available.			

Tipperah	Comillah—Towns ..	13,506	'22	14'51	2'73	3'19	Drainage is very defective in some places in the native quarters; in other parts it is fair. The outfall is towards paddy-fields on the south-west of the station, whence the water escapes into navigable nullahs and khals further on. The drains are both puca and kutcha, and are generally kept open.	Is taken from tanks and the river Gumti. There is one tank containing good water, reserved for drinking purposes, and quarried from pollution, which is resorted to by the Europeans and the majority of the natives, residents of the town. Some of the other tanks also supply good water, which is used both for drinking and culinary purposes. The water of the remaining tanks, about 440 in number, is fit for no purpose.	The conservancy arrangements are fair. Surface cleansing is properly looked after. Sweepings and refuse are employed in filling up holes and ditches, of which there are many; but fluid refuse from houses is thrown into the nearest drain or ditch. There are only five public latrines that are largely used by the people. The privy latrines are cleaned daily by the Municipal members. There are no well-privies. Night-soil is trenched, but in deep pits. Promiscuous defecation is common. Cesspits are not permitted to be dug. There are several graves in and near the compounds of houses, and new ones are allowed under special circumstances. Slaughtering of cattle takes place in the premises of the butchers.
	Comillah—Rural ..	125,879	.....	19'34	1'64	'18	Many of the villages are situated on elevated ground, and the drainage from them is fair. They are not usually liable to inundations.	Is obtained from tanks and khals, and in some cases from the river Gumti.	The dwellings are kutcha and straw-built, but have raised dry floors. Some villages have shallow ditches dug around them which are full of foul water, and in which decomposing vegetation is very great. General conservancy almost nil. The compounds are mostly dirty. The people do not build latrines, but defecate in waste-lands and jungles. The Muslim dead are either buried within house premises or on banks of tanks.

Brahmanbaria— Town.	17,543	.....	15:21	'91	8:56	The drainage is fair. There are a large number of main and cross drains which empty themselves into the river. Titas which runs past the town, and into a khal which runs through the town. The drains appear to be provided with sufficient culverts and stone-ware pipes.	Is taken from 25 municipal tanks. Care is taken to keep them clean, and their water is said to be generally good.	Surface cleansing is fairly well looked after. There are only two public latrines, the night-soil from which is buried in their vicinity. There are a large number of private privies which are not always in a clean condition, and the night-soil from these is also buried close to them. Most of these structures are constructed over drains and hollows. Interment and cremation take place out of town.
Brahmanbaria— Rural.	223,751	'004	14:71	1:50	'84	The villages of this thana, lying between the Barail and Barua rivers, are situated on high ground, and the drainage from them is therefore free. The villages are generally dry and have very few holes and excavations.	Is taken from rivers, khals, mals, dhils and tanks. In some villages the supply of water is not sufficient for the requirements of the people.	The houses are kutcha, but their floors are raised and dry. They are generally surrounded by masses of trees and jungles. The compounds are as usual dirty, and dung-hills are to be found in many of them. Defecation is carried on wherever convenient to the people. The Mahomedans usually bury their dead within house enclosures.
Nabinagar—Rural.	175,971	.....	11:51	2:37	'67	Flows generally into neighbouring dobs or ditches. Some of the villages are situated on elevated and some on low lands. The latter are liable to inundation.	Is from tanks, dhils, khals and the rivers Arangan, Titar and Mochua. In many villages the steeping of jute is largely practised in khals, old tanks, dobs, &c., but the water in them is not used by the people for any other purpose.	The dwellings of the people are kutcha with raised floors, which are in some cases damp. Surface cleansing is never looked after. The compounds are mostly dirty: ashes and other house-refuse are collected in them for manuring purposes. The people do not build latrines, but resort for defecation to fields and waste lands and other out-of-the-way places. The Mahomedan dead are buried either within house enclosures or in public burial-grounds that are generally situated at a distance from the houses.
Chandina—Rural.	78,321	.....	15:14	'71	'19	Is generally defective, and flows into the adjacent tanks and hollows.	Is taken from tanks and khals. Several of the former are overgrown with weeds and are in a bad state.	The houses are generally surrounded by trees and jungles, and the compounds are full of fallen decaying leaves, &c. Dung and all sorts of house-refuse are heaped up within them for manuring purposes. Jungles and other convenient places are resorted to by the people for defecation. The dead are buried on banks of tanks, not extending even those from which drinking water is obtained. Burials are also carried on within house enclosures.
Muradinagar— Rural.	152,322	'006	10:35	2:07	'89	Is much interfered with by hollows and excavations. Some villages are situated on low lands, and the drainage from them is defective.	Is taken from tanks and dobs, many of which are overgrown with weeds, and also from dhils, khals, and the river Gumti.	The floors of the houses are generally raised. Ventilation is in some cases defective. The compounds are dirty. Cowdung and other house-refuse are heaped up within them for manuring purposes, and many contain filthy dobs. Very few people build privies. The Mahomedan dead are buried in compounds and courts, and sometimes even in the dwelling-houses.
Dandkandi—Rural.	143,222	.....	11:54	4:30	.....	Flows generally into the adjacent holes and ditches and khals. Some villages are subject to inundations.	Is obtained from tanks, khals, and the rivers Gumti and Titas. Water scarcity is felt in some places during the hot season.	The houses are generally well raised and dry, but their surroundings are in most cases dirty. As a rule, the people do not build privies, but resort to jungles and other convenient places to ease themselves. Burials are usually carried on in house compounds.
Chandpur—Rural.	112,034	'008	16:08	1:38	2:50	Is in some cases effected by khals, but is generally obstructed by holes and excavations. Some villages are situated on low land, and are subject to inundations.	Is taken from dobs, tanks, khals, and the river Megna.	The house plinths are generally raised, but are in some cases damp. Defecation is free when not obstructed by trees, or when the houses are not crowded together. The compounds are small and dirty. In some cases the people build a rude kind of privy by throwing pieces of wood across gors, &c., but the filth is not removed from such places.

● SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
Tippurab	Lakshmi-Beral ...	...	13.58	70	50	88,572	Is fair in some villages, and is to some extent secured by means of the excavations on the sides of roads.	Is taken from tanks, many of which are in a foul state, and also from the river Dakshina.	The floors of the houses are generally raised and pretty dry. In some cases trees about around the premises. The compounds are dirty. Cowdung is sometimes heaped up within them and sometimes removed to the adjacent fields. Rudely-built privies are used by some, but the great majority of the people resort to jungles, &c., for defecation. The Mahomedan dead are usually buried on the banks of old tanks, and occasionally on that of good ones too.
	Poonathdighi-Beral.	...	14.04	78	37	108,218	Particulars regarding the sanitary condition of the villages in this thanmah are not yet available.		
	Kasba-Beral ...	...	11.77	3.85	1.36	114,152	Is generally to the neighbouring holes and excavations, and is fair only when the villages are situated on a higher level than the surrounding fields.	Is taken from tanks, many of which are overgrown with vegetation, and from the river Howrah.	The houses are generally crowded together and surrounded by trees and jungles which obstruct the free passage of air and light. Their floors are, however, raised and somewhat dry. No conservancy arrangements, jungles and other convenient places are resorted to for purposes of nature. The Mahomedan dead are buried sometimes outside the village and sometimes at other convenient places.
	Hazigan-Beral ...	12	7.73	1.30	1.12	172,347	Is generally defective. Many villages are situated on low ground and are full of pits, holes, and ditches, and consequently become water-logged during the rains.	Is taken from tanks, thals, and the river Dakshina. The tanks are mostly clean and in a fair state, but trees are allowed to grow on their banks.	The house floors are mostly raised, but rather damp, and the premises are in many cases surrounded by betelnut, coconut, palm and other fruit trees which materially obstruct air and light. The compounds are dirty, but in several instances an attempt is made to keep them clean. Dung, &c., is in some cases heaped up in the compounds. The condition of the cow and cattle sheds is generally good. Some build machas privies on gors in which the filth accumulates, while other have recourse to jungles, &c., for purposes of nature. Cremation is sometimes carried on even on banks of tanks from which drinking water is taken, while burials usually take place within house compounds.
Chittagong	Chittagong-Town	...	7.99	40	1.38	22,130	The drainage is naturally good, but it has been much neglected. The drainage of the lower levels of the town is bad owing to obstructions. Several of the drains are full of silt and jungle. The pucca drains in the bazar are choked and in many places are elongated cess-pools. The localities along the Chatbar, nullah are getting swamped.	Is taken from tanks and wells, one of the former of which is to be found in every house, and most of which are in a bad condition. Water is also taken from springs, and is said to be unvalued, but the springs are neglected. Five large tanks, five wells and eleven springs have been reserved for drinking purposes.	The sanitary condition of this town is very bad and the conservancy arrangements inadequate and badly carried out. The whole town is a vast public latrine. All the hollows, holes, and tanks reeking with filth are composed, are enclosed in a dense jungle which permits of the commission of nuisance and of the lodgment of filth of all description. There are twelve public latrines that are kept in a fair state. The private latrines are not under municipal management. They consist generally of mat enclosures over the nullah, the water of which receives a great deal of the fecal matter. The wealthier classes employ muthers, but the night-soil is buried in the nearest waste land. The night-soil from the public latrines is trenched in the jail garden. The arrangements under the head of disposal of the dead, markets and slaughter-houses are objectionable.

District.	Name of Circle.	Ratio of Deaths from— per 1,000 of Population.				Sanitary Estimate of Villages in Each Circle under the Heads of—			
		Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.	
Northbolly	Bannu—Rural	41,731	20'00	'02	'93	Is defective. Some of the villages are situated on chur land.	Almost the same as in Sudharam Rural described above.	Almost the same as in Sudharam Rural described above.	
	Hatia—Rural	40,295	20'17	'12	'81	Almost the same as in Sudharam Rural described above.	Is taken from tanks which supply sufficient water throughout the year.	The houses are ventilated. There are few trees and no jungle. No conservancy arrangements. The house compounds are filthy and untidy. No latrines. People resort to the marshes or fields for defecation.	
	Begunpur—Rural	128,933	14'37	'53	'31	Same as in Sudharam—Rural—described above.	Same as in Sudharam—Rural—described above.	Same as in Sudharam—Rural—described above.	
	Lakhipur—Rural	113,321	17'33	1'22	1'33	Is defective and is generally into the neighboring <i>dobas</i> , <i>gora</i> , ditches and <i>notas</i> . The food water of the Megna submerges the fields in some places. Some villages have roads, but without side-drains.	Is taken from tanks, <i>khalis</i> and the river Megna. Some of the holes and tanks contain water which look like vegetable infusion.	The floors of the houses are generally raised, but are still rather damp. The premises are in many instances surrounded by trees and jungles which obstruct air and light. The habits of the people are often filthy and generally cleanliness is much neglected. There are some rudely-built privies in which the filth accumulates, till it is washed away in some cases by the tides during the rains. The majority of the people resort to fields and other places for purposes of nature. The dead are burnt and buried within villages and on banks of <i>khalis</i> and rivers, and sometimes on that of tanks from which drinking water is taken.	
Patna	Ramganj—Rural	80,742	15'45	'79	'70	Almost the same as in Lakhipur—Rural—described above.	Is taken from tanks, <i>dobas</i> and <i>khalis</i> , all of which are more or less open to pollution.	Villages are situated on very low ground, and are full of betel-nut and coconut trees and tanks. The dead are buried on the banks of old and unused tanks.	
	Patna—Town	160,237	5'62	4'80	2'89	Is defective. The long promised drain to carry off the drainage from the Chowkies is under construction, the floor of the culvert under the railway at the Pains station has been lowered to the necessary depth, and the work is nearly finished. A complete and efficient drainage scheme is required for this town.	Is taken from the river Ganges and from wells. There are 50 municipal and several private wells. The former and most of the latter are well protected. The private wells are mostly <i>kutcha</i> , and although the water of some of them has been condemned, it is generally believed to be wholesome. But this can hardly be the case, as surface defilement is general, and the wells are situated in proximity to well-privies.	Surface cleansing appears to be fairly carried on, but with strict supervision over the conservancy establishment much can yet be done in this direction. The mode of disposal of the fluid house and kitchen refuse is bad and objectionable, and will continue to be so till an efficient system of drainage is provided. There are 11 public latrines which have separate compartments for males and females. There are also several portable latrines. About two-thirds of the inhabitants are said to have privies of their own, the conditions of which are somewhat better than they used to be. Promiscuous defecation is very great in this town, and will continue to be so until a sufficient number of public latrines is provided. The night-soil from the public and private privies is removed once daily to the trenching ground, and buried in pits measuring 8' x 4' x 3'. Shallow trenches should be introduced in places of pits.	

Patna—Rural	27,574	'03	7'51	'46	3'32	In very defective. No further particulars given by local officers.	Is taken from the rivers Sone and Ganges, and from wells. The quality of the water on the whole, is not good, as it is polluted by the people in various ways.	The houses are mostly made of mud walls, and are thatched with bare tiles, or a layer of straw is put underneath. They are closely built on a slightly raised floor, with defective ventilation, and are overcrowded with inmates at night, particularly in the houses of the poorer classes. The houses are swept daily, together with the <i>angana</i> , or compound, in front of them; but their surroundings are filthy. The fluid refuse passes through the house drains to the footpaths between the rows of houses, where it partly soaks into the soil, and partly evaporates. The habits of the people are very filthy. Defecation is promiscuous.
Behar—Town	49,971	'20	6'88	1'50	1'75	Most of the roads in the town are unmetalled, and not provided with side-drains; the drainage is very defective; there are pits and excavations which receive the surface drainage.	The water-supply is not good. Well water is used for all domestic purposes.	Conservancy arrangements are neglected; the by-paths are not properly swept and defecation is carried on on their sides. There are five public latrines, but they are kept unclean, and their floors and walls are not tarred; the private latrines which exist are mostly well-privies; the night-soil is trenched in deep trenches; the offal, &c., of slaughtered cattle are not properly placed disposed of. There is no appointed burial place or burning ghāt.
Behar—Rural	233,312	'04	16'30	1'42	1'46	Drainage is defective. The high alunes or bunds, which exist in almost every village for the protection of the paddy-crofts, impede natural drainage to a great extent.	Only well water is used both for drinking and other domestic purposes.	The habits of the people generally are very filthy. Conservancy arrangements do not exist in any village, and defecation is promiscuous.
Barh—Town	23,610	'46	5'92	1'77	4'87	The roads in this town, excepting two, are kutcha, and not provided with side-drains. The drainage is defective. Pits and excavations exist, and receive part of the surface drainage.	The water-supply arrangements are not quite satisfactory. It is taken from the river Ganges and from wells.	Surface cleansing is not properly attended to. The lanes are not swept. There is a public latrine in the northern portion of the town. The poorer classes defecate everywhere; the private privies consist mostly of sundries or well-privies, and cesspools are attached to most of the houses, and there is no appointed slaughter-house or burial place or burning ghāt.
Barh—Rural	170,588	'11	17'90	1'23	1'45	The villages in the northern portion of this thana are situated on comparatively high ground. The natural drainage is consequently fair; but the southern portion being very low, is inundated during the rains.	Is taken from the river Ganges and from wells. The surrounding of which are so filthy that the water naturally gets polluted.	Same as in Behar thana described above.
Dinapur—Town	61,225	4'48	1'11	2'18	Particulars regarding the sanitary condition of this town are not yet available.	Is taken from wells, most of which are protected with pucca jars, but the surroundings are very dirty, as the people wash themselves and their utensils with ashes and earth near them. The water is therefore not above suspicion.	Same as in Behar thana described above.
Dinapore—Rural	15,387	31'71	6'32	11'82	The natural drainage flows into the river Sone, and there is no obstruction.	Is taken from wells, most of which are protected with pucca jars, but the surroundings are very dirty, as the people wash themselves and their utensils with ashes and earth near them. The water is therefore not above suspicion.	Same as in Behar thana described above.
Mokamah—Rural	88,824	'19	18'55	2'31	5'49	The villages in the northern portion of this thana are situated on comparatively high ground. The natural drainage is consequently fair; but the southern portion being very low, is inundated in the rains.	Is obtained from the river Ganges and from wells, the surroundings of which are far from clean.	The habits of the people are generally filthy. There are no conservancy arrangements; accumulations of filth are to be seen everywhere, and defecation is promiscuous.
Patna—Rural	88,061	'83	15'47	3'70	2'16	Same as in Mokamah thana described above...	Same as in Mokamah thana described above	Same as in Mokamah thana described above.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Howel-com-plaints.			
Patna	Monair—Rural	98,516	02	15'34	1'33	3'46	The villages that are situated on high land have their natural drainage free, but those on low land especially in the northern portion of the thana, are inundated in the rains.	Is taken from wells both for drinking and other domestic purposes.	There are no conservancy arrangements. The footpaths are kept very dirty with cow-dung, &c. The houses are ill-ventilated. There are a few private privies which are not kept clean. The majority of the people defecate wherever they like. There are no burial grounds, and no proper arrangements for cremation.
	Atsarai—Rural	78,333	05	19'01	6'76	20	Zynda, which exist in almost every village for the protection of paddy and other imbedded in the natural drainage to a great extent. The canal embankments too are said to interfere with the drainage, which flows into and stagnates in pits and excavations.	Only well water is used both for drinking and other domestic purposes. Quality of water not stated by local officers.	The habits of the people generally are very filthy. Conservancy arrangements do not exist in any village. Defecation is carried on anywhere. There are almost every thana, which is a great nuisance.
	Salao—Rural	11,477	04	21'73	7'71	1'11			
	Masouri—Rural	120,613	09	17'36	2'23	1'31			
	Bikram—Rural	150,333	13	13'21	3'30	11			
	Hilss—Rural	176,075	03	17'51	4'31	1'4			
	Bankipur—Rural	97,001	03	14'76	1'44	1'46	Is from, and flows into the newly-cut irrigation canal.	Is taken from wells, which are protected and generally contain good water.	The general plinths of the village houses are raised; they are thatched as well as tiled, but the surroundings are very dirty. There are no conservancy arrangements. People defecate anywhere, as there are no privies. Houses of cowdung, &c., are to be found all over the place.
Gya	Gya—Town	76,121	03	14'41	8'78	4'37	The drainage system is very defective, both in construction and plan. In the old town there are large square underground masonry drains, which do not empty themselves naturally, and cannot be flushed for want of water. They are full of stinking fluid, and do not seem to be frequently attended to. Their effect on the health of the people must therefore be very bad. If Gya is ever to be healthy, some reform in the drainage system of the town is required.	Is taken from wells and the bed of the river Phalgu. The supply is admittedly insufficient for local requirements, and is generally of bad quality. No steps have yet been taken to improve matters in this respect.	General conservancy seems to be fairly well attended to, but with strict supervision over the establishment it can be still more satisfactorily done. The cow and cattle sheds are not always kept in the state in which they should be. There are no public latrines in different parts of the town. Nearly two-thirds of the inhabitants are said to have privies of their own, the plan of construction of, and the mode of cleaning which, continue to be imperfect.
	Daudnagar—Town	9,870	20	032	3'84	31	Is pretty fair. There are some pucca drains along the roadside, but most of the drains are kutchas. The fall of all the drains is towards the entrenchment and the Son river, and is easy, so that rain-water runs off in all directions. The centre of the town is higher than its outskirts. An outlet for draining the moat is required.	Is taken from wells, of which there are very many. Some of them are pucca, and they afford an abundant and wholesome supply, but many others are polluted. The water of the canal, which is within easy reach of some parts of the town, is not much used.	The houses are crowded together; surface cleansing and the cleaning of drains are attended to; but on the whole, the conservancy arrangements are unsatisfactory. Sweepings are utilized in filling up ditches. There are no public latrines, and no arrangements have been made for the disposal of night-soil from the private privies. The house drains are in an offensive condition. The ditch around the town is the receptacle of all kinds of filth, rubbish and offensive matter, and is consequently a source of unhealthiness.

Daudnagar—Rural	92,296	'13	18'84	6'70	1'39	The natural drainage is free, but the canal embankment impedes it to a certain extent.	Is taken from the river Poon-Poon and from wells. The water is polluted everywhere.	No conservancy arrangement in any village. Refuse and sweepings are deposited here and there within the villages and are used as manure when required. The people are very filthy in their habits.
Tikari—Towns	176,803	'03	17'83	11'82	'53	Is defective. The roads are not sufficiently wide and they are not provided with properly constructed side drains. The pits and excavations and a deep ditch receive the surface drainage.	Is chiefly taken from wells. The promiscuous dipping of water-pots pollutes the water to a great extent.	Conservancy arrangements are imperfect. Night-soil is not properly trenchured, but a piece of land has been taken up for the purpose. The public latrines are quite inadequate in number. There are sundresses or well-privies. The people defecate wherever it is most convenient for them to do so.
Tikari—Rural	176,805	'03	14'63	6'81	'2	The villages in the northern portion of this thanmah are situated on a lower level than the villages in the southern portion, which are situated on high ground. The direction of the drainage is from south to north and the hill-streams and rivers which pass through the thana carry away the water, &c., from the drains.	Is chiefly from wells which are not protected from inward drainage, and in which promiscuous dipping of water-pots is allowed. As the surroundings of the wells are also not clean, the water is not above suspicion.	Cleanliness is not known, or, if known, is not practised. The only latrines that exist are well-privies which are objectionable. People defecate wherever it is convenient for them to do so. Sweepings are deposited in heaps here and there, and are used as manure, when required.
Packri and Nowade—Rural	391,713	'03	25'19	3'16	'45	The drainage is naturally free, but it is obstructed here and there by <i>dhungs</i> or bunds.	Is taken from rivers and wells. The latter are not properly protected from inward drainage and the people bath and wash near them.	The dwelling-houses are compact, mud-walled, and defective in internal ventilation. The mud floors are dry and kept clean together with the <i>angus</i> or house compounds, but the surroundings are very filthy. Promiscuous defecation is common. There are sundresses or well-privies. The fluid refuse partly soaks into the soil and partly evaporates. Dead bodies are cremated on the banks of the nearest rivulets, on the sides of the hills, or on any waste lands close to the villages. The Vishomedans, bury their dead on the outskirts of the villages.
Arwal—Rural	110,435	'27	16'03	8'06	'87	The natural drainage is free, but the canal embankment impedes it to a certain extent.	Is taken from wells and in a few villages from the river Poon-Poon. The water is polluted everywhere.	The houses are crowded together and defective in internal ventilation. Overcrowding of the inmates among the poorer classes is general. Cattle sheds are within the house compound. The house floors are dry and are kept clean, but the surroundings of the houses are very filthy. Sweepings are deposited here and there and used as manure when required. The fluid refuse soaks into the soil or evaporates. Defecation is promiscuous.
Gya—Rural	215,393	'06	25'11	6'04	'58	Particulars regarding the sanitary condition of these places are not at present available, as the officers of the Vaccination Department, from whom the information is obtained, have not yet visited them, as vaccination has not yet been introduced into them.		
Nabinagar—Rural	98,046	'66	19'38	70'38	'71			
Rajali—Rural	98,775	'95	22'47	'84	'01			
Saharathi—Rural	162,319	'12	24'67	13'39	'23			
Barachetti—Rural	96,211	'04	27'13	5'07	'42			
Arunabad—Rural	245,427	'17	16'71	15'76	'77			
Atri—Rural	78,516	'02	18'93	9'36	'16	The natural drainage is free, but it is obstructed to a certain extent here and there by the <i>dhungs</i> or bunds.	Is taken from the wells and in a few villages from rivers. The water is nowhere above suspicion.	The houses are mud-walled, compact, and defective in internal ventilation. The house floors are dry and clean, but the surroundings are very filthy. The cattle-sheds are within the house compound and are cleaned daily, and the floors are sprinkled with ashes every now and then. Defecation is promiscuous.

Kargher or Nokha— Rural.	104,647	.....	25'64	10'25	'87	Drainage is defective and is further impeded by the embankments of irrigation canals. The pits and excavations which exist in the villages generally receive the surface drainage, and being undrained, the water either soaks into the soil or evaporates.	Is taken from wells. The wells are for the most part situated on raised ground, and their margins provided with parapets; but the parapets are, with few exceptions, nowhere well-cemented or plastered, and bathing and washing are performed near them; hence their water is not above suspicion.	The houses are constructed of mud walls with tiled or thatched roofs, with defective ventilation. They are overcrowded with inmates at night, particularly the houses of the poorer classes. The floors of the houses are dry, except during the rains; they are swept daily, but their surroundings are filthy. The fluid refuse passes through the house drains to the footpaths between the rows of houses, where it partly soaks into the soil and partly evaporates. The habits of the people are very filthy. No conservancy arrangements exist. Defecation is promiscuous.
Dumraon—Town ..	17,835	'05	12'44	16'34	'85	The drainage is defective. The roads are provided with side drains except in the bazars, where there are kutcha drains which are not kept clean. Some of the drains remain filled with canal water, causing dampness in their locality.	Well water is chiefly used. The public wells are surrounded with masonry parapets and platforms, so that inward drainage is obviated. Canal water is used for culinary purposes.	The houses are crowded together and defective in ventilation. Some of the roads have been metalled, others are kutcha, but they are not cleaned and are encumbered upon near the bazars. Surface cleansing is attended to, the sweepings and refuse being employed in filling up hollows and ditches. There are public latrines for males and females, but they are not generally used. Defecation is promiscuous. There are well-privies in several houses. The night-soil from public and private latrines is trenched.
Dumraon—Rural ..	242,103	'01	24'30	7'64	'43	The embankments which exist impede the natural drainage. The northern portion of this thannah, however, is situated on the banks of the rivers Ganges and Son, and drainage in that part is pretty free.	Is obtained from wells which are situated on high ground, but most of them are kutcha, and do not generally contain good drinkable water.	The houses are crowded together and defective in ventilation. Refuse and sewage are accumulated here and there, and house sweepings are thrown on the roads. Promiscuous defecation is common, the children generally resorting to the roads.
Buzar—Town ..	17,068	'39	7'24	4'53	2'60	The drainage is defective. Pits and excavations receive the surface drainage which stagnates in them; the few drains that exist are deep and dangerous.	Is taken from wells and the river Ganges. The river water is good, but during the rains silt is washed into it. The water of most of the wells is brackish.	Surface cleansing does not appear to be attended to. There are four public latrines. The private privies are under municipal management. There are no well-privies. Night-soil is either buried or deposited in places appointed for the purpose. Cesspits exist outside of most houses. The Hindu dead are either cremated or thrown into the river.
Buzar and Chowra— Rural.	145,867	'01	23'35	7'50	'43	Drainage is defective. The footpaths serve the purposes of drains, and deep excavations exist which contain stagnant water all the year round.	Is chiefly taken from wells. Some of them are pucca and some kutcha, and their water is not free from pollution.	The houses are crowded together and ill-ventilated. No conservancy arrangements exist. Slat-lanes, cesspits, and refuse are accumulated in front of the houses.
Bhabuah—Town ..	5,728	'17	16'23	15'44	2'61	The drainage is defective, there being hardly any drains at all.	Is taken from tanks and wells. No tanks have been set apart for drinking purposes. On the whole, water-supply is bad.	There are no public latrines. Defecation is promiscuous. There is no municipal slaughter-house, nor any appointed burial-ground or burning ghāt.
Bhabuah, Dur- gawati and Chand— Rural.	163,005	'01	24'51	7'56	'33	Drainage is defective. The footpaths serve the purposes of drains. The rain-water flows into deep excavations, where it stagnates.	Is taken from the river Ganges and wells	The habits of the people are filthy. The houses are ill-ventilated, but their floors are dry. They are swept daily, but the sweepings are accumulated for manure. Defecation is promiscuous.
Dehri—Rural ..	78,884	'05	17'77	9'44	'46	Drainage is defective. There is a network of irrigation canals, the banks of which impede the drainage.	Is taken from wells and from the river Son. The water from the river is not pure, as partially burnt dead bodies are cast into it. The wells are for the most part situated on raised ground, and their margins are provided with parapets, but the parapets are, with few exceptions, nowhere well-cemented or plastered, and bathing and washing are performed near them; hence their water is not above suspicion.	The dwelling-houses are constructed of mud walls with tiled or thatched roofs, with defective ventilation, and are overcrowded with inmates at night particularly the houses of the poorer classes. The floors of the houses are dry, and they are swept daily, but their surroundings are filthy. The fluid refuse passes through the house-drains to the footpaths between the rows of houses, where it partly soaks into the soil and partly evaporates. The cattle-sheds are close to dwellings but they are cleaned daily. Defecation is promiscuous.

District.	Name of Circle.	RATIO OF DEATH FROM - PER 1,000 OF POPULATION.					SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF -			
		Small-pox.	Fever.	Cholera.	Honorary-plumbers.	Drainage.	Water-supply.	Domestic cleansing.		
Shahabad	Dhungain-Bural ..	179,916	'01	17'06	822	'10	Drainage is defective, owing to the embankments of the network of irrigation canals which impede the drainage.	Well water is used both for drinking and other domestic purposes. The wells are for the most part situated on raised ground, and their mortars provided with parapets, but they are not well cemented or plastered, and bathing and washing are performed near them; hence their water is not above suspicion.	Same as in Dehri thanmah described above.	
	Jugdispur-Town ..	12,568	'07	11'37	2'14	1'51	The roads in this town, excepting one, are unmetalled, and not provided with side-drains; the drainage is defective, the drains on the sides of the metalled road are deep and full of fluid refuse.	The water-supply is not above suspicion, the source from which it is taken has not been stated.	The conservancy arrangements are quite unsatisfactory. There is not a single public latrine; defecation is permitted anywhere and everywhere; the arrangements connected with the disposal of the dead are very unsatisfactory. There are no burning ghats or burial ground.	
	Belouti-Bural ..	133,311	'04	17'04	4'38	'07	Drainage is very defective. The surface water finds no exit, and there are deep excavations full of foul water.	Wells supply water for all purposes. They are mostly kutchas; and as bathing and washing of clothes, &c., are carried on near them, they are very foul.	The houses are crowded together and defective in ventilation. Overcrowding of inmates at night is general. The house surroundings are very filthy. No conservancy arrangements exist. Defecation is promiscuous. Refuse is collected in heaps.	
	Mohania or Ramghur-Bural.	150,413	'03	26'97	4'61	'06	Same as in Dhunrain rural described above	Same as in Dhunrain rural described above	Same as in Dehri rural described above.	
Mozaffarpur	Mozaffarpur-Town	42,742	'11	3'11	1'31	'58	The drainage is as defective as it can be. There is no regular system of drains, and the imperfect ones now existing are not kept in proper order. They are largely obstructed by rubbish cast into them by house-holders perhaps, but more frequently by municipal servants. A proper scheme of drainage is urgently required.	Is taken from private wells and tanks, none of which have been set apart for drinking, the former is generally resorted to for this purpose, and the latter for bathing, washing of clothes, &c. Many of the tanks are said to be in good condition, but this seems to be unlikely, as they often receive house drainage, and are in many instances situated close to latrines, middens, &c. The wells, though numerous, are badly looked after, and do not therefore contain good drinkable water.	Surface road cleansing is fairly well done, but the surroundings of the houses are generally filthy. Fluid house and kitchen refuse is improperly disposed of. The cow and cattle sheds are in a filthy state. There are 10 public latrines, which are neglected and very dirty. The private privies are mostly in a filthy and offensive state. The night-soil of the town is not removed from private houses. The night soil from public latrines is trenched, but the system followed is objectionable. The arrangements under the heads disposal of the dead, markets, and slaughter-houses require more attention than is at present paid to them.	
	Hajipur-Town ..	25,686	'23	4'78	1'01	5'33	Drainage is pretty free; the streets having been provided with side-drains, pucca and kutchas.	Is taken from the river Ganges, wells and tanks. The quality of the water is believed to be particularly good.	Surface cleansing is attended to; private house scavenging is not quite satisfactory. There is one double-seated movable latrine; many more are much required. Well-privies exist in private houses. There is no trenching ground for night-soil, which is buried in ditches at some distance from the habitations. There are 105 burial places within the town.	

Sitamari--Town ...	6,125	'65	13'55	'38	5'71	Information has not been furnished ...	Is taken mostly from wells. River water is also used.	The street sweepings and garbage are removed. There are three public latrines. The roads are kutcha.
Lalganj--Town ...	16,783	'47	7'44	3'57	5'34	Drainage is said to be satisfactory. The town is intersected by numerous water channels, and embanked by several roads. The drains discharge into several tanks.	Is taken from numerous wells. Quality of the water has not been stated.	This town is composed of a closely-packed bazar with outlying villages to the north and south. Many of the houses are substantially built. Surface cleansing is looked after, the refuse and garbage being removed to a distance from the town and buried. Sweepings are utilized in filling up hollows and ditches. There are no public latrines.
Mozafferpur--Rural	500,596	'01	5'57	7'3	'60			
Sitamari, Belsond and Belamochpakkunia--Rural.	463,137	'02	7'25	4'02	'14			
Paro and Budraj--Rural.	288,957	'08	7'03	2'25	1'36			
Lalganj--Rural ...	127,079	'09	10'59	1'10	'61			
Mahwa--Rural ...	310,444	'03	8'70	1'03	'25			
Hajipur and Mahanar--Rural.	244,630	'09	9'79	5'19	'40			
Propree (Jeley)--Rural.	222,516	'0	5'21	6'41	'07			
Shevhar--Rural ...	146,116	'09	7'94	4'02	'23			

Particulars regarding the sanitary condition of the villages in the Mozafferpur district are not at present available, as the officers of the Vaccination Department, whose duty it is to furnish the information, have not yet visited them, vaccination not having yet been introduced into them.

Durbhunga--Town	66,096	'13	11'39	3'62	4'57	The drainage is extremely defective. The drains are defective in level and non-effective. Hollows and excavations abound, into which the drainage finds its way. During the rains the whole town is water-logged. A drainage scheme has been prepared, and will probably soon be carried out in a satisfactory manner.	Is taken from the river Bhagmati, wells, and tanks. Eleven tanks have been set apart for drinking. They are fairly protected from pollution, and are situated in central positions. Most of the other tanks are in a foul state. The condition of the wells that are used solely for drinking is comparatively better now than formerly. Pucca drains have been provided around the platforms of some of them, and the grounds around some have been properly sloped.	Surface cleansing is fairly well done at present, and the sweepings, &c. of each ward are being utilised in filling up one of the dirty water-holes of the town. The fluid house and kitchen refuse is removed to the trenching ground for disposal. There are 36 public latrines. The private privies are generally made of fati with pucca walls. They are a great nuisance, as they are not kept clean. The night-soil from all the public and private privies is removed to the trenching ground and buried there in shallow trenches.
Durbhunga--Rural	337,423	'01	6'42	2'58	'04			
Dalsinghgarai--Rural	279,504	'08	13'32	2'32	'34			
Tajpur--Rural	305,483	'04	7'30	5'7	'01			
Narabadi--Rural	163,946	'19	14'18	7'50	1'15			
Kinjori--Rural	181,840	'15	21'03	7'47	1'49			
Phulpur--Rural	270,451	'08	10'08	2'74	2'58			
Madhubani--Rural	211,772	'02	10'23	1'64	1'71			
Rosera--Rural	256,605	'01	10'41	'89	'15			
Bahera--Rural	300,875	'06	5'14	5'7	'40			
Beniputi--Rural ...	273,742	'06	13'15	4'59	'11			

Particulars regarding the sanitary condition of the villages in the Durbhunga district are not yet available, as the officers of the Vaccination Department, whose duty it is to furnish the information, have not yet visited them, vaccination not having yet been introduced into them.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Throat-complaints.			
Sarun	Chapra—Towns	53,249	'13	2.49	1.87	1.99	The drainage is extremely defective. In fact this town is considered the most badly drained one in Bengal. It is so low-lying that proper drainage is difficult, but a scheme of providing the town with saucer drains has been undertaken. The existing drains are rendered non-effective by being blocked and built over, the consequence being that stagnant water is collected in pools all over the town to the detriment of health.	Is taken from wells and the river, and from three of the largest tanks which are guarded from pollution. The well water is said to be good and plentiful; but it cannot be good, as the surroundings of many of the wells are often filthy, and the encircling drains blocked and full of mud.	General conservancy is fairly well performed, and sweepings, &c., are properly disposed of. There are 39 public latrines. They are fairly well kept, but more of them are required for the town. There are many private latrines, but they are for the most part unclean. Promiscuous defecation is common. The night-soil from the public and private latrines is trenched, but that from one of the latrines is stored in a shed mixed with dry earth for sale as manure.
	Sewan—Towns	13,307	1.42	7.58	5.63	4.50	Drainage does not appear to be good. There are three main drains, the outlet of which is into the river Dalia. They are kept clean by coolies.	Is taken from wells, the water of which is admitted to be good.	Surface cleansing is looked after, and the sweepings &c., utilised in filling up ditches. There is one ordinary public latrine and 21 movable ones. The night-soil from the public and private latrines is deposited in the municipal depots, and thence carried away to a plot of land situated at a distance from the town and there trenched. The private privies are not always in a clean condition.
	Beniganj—Towns	12,493	'43	14.32	4.24	5.1	The drainage is defective. There are pucca and kutch drains, they lead to the Gogra river, and into the Jangra nulls. They are cleaned now and again by extra coolies.	Is taken from wells, of which six belong to the municipality. The well water is said to be excellent and sufficient.	Surface cleansing is looked after. The street sweepings and refuse are thrown out of town into ditches. There are no public latrines. The night-soil from the private privies is placed in depots established by the municipality, and thence carted to and thrown on waste land at a distance from the inhabited parts of the town.
	Chupra—Zawal	190,265	'06	8.96	4.99	4.27			
	Sewan "	302,061	'03	6.30	6.42	2.82			
	Gopalkanj "	280,355	'21	7.53	2.73	2.14			
	Manthi "	149,733	'11	9.63	4.99	.92			
	Burgeson "	884,681	'16	9.63	2.91	.62			
	Dighwara "	130,251	'04	4.84	1.65	2.07			
	Fura "	239,072	'06	3.76	1.09	.64			
Champaran	Masrath	250,642	'04	2.44	.13	.38			
	Basaniapur "	211,476	'08	7.33	4.44	1.10			
	Darwali "	222,613	'10	14.39	5.26	.50			
	Particulars regarding the sanitary condition of the villages in the Sarun district are not yet available, as the officers of the Vaccination Department, whose duty it is to furnish the information, have not visited the villages, vaccination not having yet been introduced into them.								
	Bettiah—Towns	21,263	'19	16.69	5.57	.51	The drainage appears to be fair. Most of the main streets have been provided with pucca drains, which work efficiently. No drainage scheme has yet been undertaken, but the Maharajah has expressed his willingness to lend his Engineer for the purpose.	Is taken from wells and tanks. The water of the former is used for drinking and that of the latter for bathing. A new tank has been dug near the railway station. It will greatly improve the water-supply of the neighbourhood. The wells are now fairly well protected. Masonry rims as well as pucca drains to carry off the spill water have been provided to several of them.	Surface cleansing does not seem to be properly attended to except in the streets. There is only one public latrine, and it is very little used. Defecation is promiscuous. There are 1,109 private privies. They are kept in fair order, and the night-soil from them is buried in three trenching grounds outside the town in shallow trenches. The arrangements under the heads of markets and slaughter-house and disposal of the dead are satisfactory.

Motihari—Towns ..	10,397	'88	7-27	14-24	4-83	Drainage is very defective. Some of the drains are encroached upon, and the flow of water impeded in front of houses and shops. An efficient system of drainage is urgently required.	Is taken from tanks, wells, and a lake. A new tank, not yet complete, has been dug near Henry Bazar by Baba Moonram Chowdhury. It properly looked after and protected, it will greatly improve the water-supply of the locality. The lake is used for bathing and washing purposes; seldom for drinking. There are eight municipal and 100 private wells set apart for drinking water. Many of them dry up in hot season, and several of the private ones are imperfectly protected.	Surface cleansing is not properly done on account of inadequate establishment. The surroundings of several houses are still very dirty. There are two public latrines, one for each sex, which have lately been constructed. The condition of the private privies generally is bad, and it will be so until their management is taken over by the Municipality. Defecation is promiscuous. The conveyance arrangements obtaining here are very defective. The arrangements under the head of disposal of the dead are satisfactory.
Particulars regarding the sanitary condition of the villages in the Champaran district are not yet available, as, although vaccination has been introduced into a great part of it, the plan of operations followed in the Behar Circle this year did not embrace Champaran, and the villages were not consequently visited by the officers of the Vaccination Department.								
Bettiah—Bural ..	348,973	'25	13-39	7-03	'09			
Motihari ..	168,411	'38	15-26	8-34	'12			
Gowlie—Bural ..	165,063	'24	7-58	7-42	'18			
Gobindganj—Bural ..	140,900	'08	20-39	10-91	'07			
Bagaha and Mudhuna—Bural ..	253,993	'27	10-81	9-14	'03			
Dhaka—Bural ..	177,683	'08	10-15	8-67	'11			
Kaurah ..	130,966	'93	14-34	12-73	'61			
Kapur ..	191,917	'12	20-12	9-46	'08			
Lowrys ..	105,086	'27	8-91	'87	'20			
Mudhuon ..								

Monghyr—Towns ..	87,530	'20	11-07	2-12	4-83	The drainage is defective. A drainage scheme is, however, in hand, and a surveyor is now employed in making a survey. After its completion and the approval by professional engineers of the scheme drawn up, the Commissioners of the Municipality will take the matter in hand and carry it out year by year.	Is taken from wells and from the river Ganges. There are nine wells belonging to the Municipality and 165 to private parties, which are said to be used solely for drinking purposes.	Surface cleansing appears to be fairly well attended to. There are 19 public latrines for males and 20 for females. These are said to be sufficient for local requirements, and are kept in good order. The mode of disposal of night-soil continues to be satisfactory. It is removed in baskets after being mixed with dry earth, and is trenched in different places at the request of ryots, land being manured in this manner at the rate of Rs. 40 a bigha.
Monghyr—Bural ..	81,736	'03	25-27	'23	'23	The drainage is defective. The pathways are not provided with side-drains.	The sources of water-supply are wells, many of which are protected by pucca parapets.	The people are indifferent to personal cleanliness. The houses are crowded together. They are ill-ventilated and in a bad state of repair. Pits and excavations abound in several villages. The people resort for defecation on the sides of roads, excavations, and waste lands. Refuse matters and cowdung are accumulated in front of houses and on pathways, and are removed only when required for manure. There is no conveyance. Dead bodies of the Hindus are cremated on the banks of rivers or tanks. The Mohammedans bury their dead outside of the villages.
Jamalpur—Towns ..	13,563	'07	16-73	1-40	3-03	The drainage is defective. Several of the drains are blocked, built over, and out of repair, and are consequently non-effective.	Is taken from wells. The bunding up of a valley in the hills near the town has been carried out, and a very large volume of water confined. The catchment area is formed by almost barren stony hills, so that the water is little liable to contamination, either animal or vegetable. In appearance it is clear and pure. It is conveyed to the railway station and works by a pipe.	Surface cleansing seems to be fairly well attended to, and the sweepings, &c., are properly disposed of. There are ten public latrines. The private privies are mostly pucca, but are situated too close to the houses wells. The night-soil from both the public and private latrines is removed daily and trenched. The arrangements under the head of "disposal of the dead" are unsatisfactory, with the exception that Hindu and Mahomedan papers, dying from small-pox and cholera are thrown into the Bakra mulla.
Jamalpur—Bural ..	6,261	.....	15-17	.....	1-27	Particulars regarding this rural area are not available.		

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Population.	Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
	Shaikpura—Towns—	12,517	.....	23.56	10.54	39	There are no drains. No further information furnished.	Is taken from springs and wells. The former drain from the adjacent hills, and bring down human excreta and other descriptions of filth. The latter are for the most part kitchens and unprotected, and their water is filthy and insufficient.	No conservancy arrangements exist. The houses are overcrowded and very filthy, and refuse and sewage are not removed, but accumulated in the backyards of houses. There are well privies in many houses, but they are never cleaned.
	Shaikpura, including Luckhiserai—Bazal.	186,683	01	24.50	7.06	51	No proper drainage. The pathways are not provided with side-drains.	Is from wells, many of which, although protected by pucca parapets, are said to contain bad water.	The people are very dirty in their habits. In some places the houses are crowded together, and are without ventilation. Pits and excavations are to be found in several villages. Defecation is carried on indiscriminately on the sides of roads, excavations, and waste lands near the dwelling-houses. No conservancy arrangements exist. Refuse and cowdung are heaped up in front of houses and on pathways, and are only removed when required for manuring. The Hindu dead are cremated on the banks of rivers or tanks. The Mahomedans bury their dead outside of the villages.
	Surajgurrah, including Burraipore—Bazal.	163,253	03	30.06	78	117	There is no proper drainage in any of the villages here. The village paths become impassable during the rainy season.	Well water is used for drinking purposes. Where there are tanks and rivers, their water is used.	The people are generally dirty in their habits, and pay no regard to domestic cleansing. The houses are crowded together, ill-ventilated, and in a bad state of repair. The floors of the houses are raised and free from dampness. The huts of the poor do not appear to have sufficient accommodation for the inmates. House refuse and cowdung, which are accumulated in heaps in the front and at the back of houses, are only removed when required for manure. Defecation is carried on promiscuously.
Moughyr	Gogri—Bazal	365,954	04	27.23	6.40	11	Same as in Surajgurrah thana described above.		
	Kharakpo—Bazal	143,079	03	23.78	8.06	04			
	Tegra—Bazal	203,032	06	45.78	4.09	31			
	Beguneral—Bazal	279,794	06	18.34	1.73	20			
	Sekundra—Bazal	122,889	.....	27.24	2.59	31			
	Jamul—Bazal	120,563	06	23.04	2.11	48			
	Chakye—Bazal	109,540	06	21.91	1.35	40			

Jamui-Towns	.....	Data not available.	The drainage is defective. The drains are not regularly cleaned, and for want of free flow they become full of foul water which overflows the main road during rainy season.	Wells supply water for all purposes. They are surrounded with pucca parapets. There are also five tanks, but their water are not used for drinking purposes.	The houses are constructed on high floors sufficiently preserved from ground damp, but they are ill-ventilated. The people are very dirty in their habits. Surface-cleaning is not properly attended to. There are two public latrines, but the people prefer resorting to fields and road sides than to them.
Bhagalpur-Towns	57,433	12/03	4/73	2/01	Is taken at present from the river Ganges and from wells. Since the opening of the Water-works in March 1887, some of the inhabitants use filtered water. This will not, however, as yet afford water to the whole town.
Kotwali or Bhagalpur-Ensal	100,579	.....	78	26/19	Is from wells, many of which are protected by pucca parapets. The river Ganges and rivulets are also resorted to for water.
Colgong-Towns	5,672	17	2/84	7/40	Is taken from the river Ganges and also from wells.
Colgong-Ensal	186,565	005	29/27	1/21	Same as in Bhagalpur rural described above.
Banka-Ensal	134,227	07	26/37	73	Is taken from wells, tanks, and the river Ganges. When the river is dry, clear water is obtained by digging into its bed. The sides of some tanks have been raised to prevent surface drainage, but their water is polluted by bathing.
Mudehpura-Ensal	262,678	.....	20/45	1/37	Is obtained chiefly from wells. The wells are unprotected and contain unwholesome water.
Kishanganj-Ensal	135,393	.....	26/18	42	Same as in Bhagalpur rural.
Sultanganj-Ensal	98,427	.....	21/18	3/10	Same as in Bhagalpur rural, described above.
Sibpur-Ensal	96,403	01	30/13	79	Same as in Bhagalpur rural, described above.
			1/10		

Bhagalpur

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
			Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Bhagulpur	Sopole—Beral ..	299,043	'003	15'85	3'12	'08	Drainage is so defective that the village roads become impassable during the rainy season.	Is taken from wells and tanks, which are also used for bathing and washing purposes.	The people are filthy in their habits. No conservancy arrangements exist. Defecation is promiscuous.
	Pratabpur—Beral	163,372	'01	22'03	10'43	'27	Particulars regarding these rural tracts are not yet available.		
	Bungaon—Beral ..	148,560	.....	13'43	1'11	'26			
	Umerpur—Beral ..	206,508	.....	21'55	1'25	'33	The drainage is defective everywhere, and makes the place not only damp, but unhealthy.	Water lodges. Is taken chiefly from wells. The riparian villages draw their water supply from the river Ganges.	The people are indifferent to personal cleanliness. The houses are, as a rule, ill-ventilated. No conservancy arrangement exist; the pathways are covered with refuse, straw, cowdung &c. Defecation is promiscuous.
	Kotah—Beral ..	77,644	'01	20'32	'06	'09	Particulars regarding this rural area are not yet available.		
Purneah - Town ..		16,916	'26	20'31	1'13	2'73	The drainage of the town, although much improved, is still defective. The fall is from north to south. The Lalgaon drain, which has been completed and works satisfactorily, has been made to carry off water in the above direction. Many of the drains are kutcha, and are obstructed in many places.	The condition of the water-supply has been improved. It is taken chiefly from wells and from the river Sonra by those who live near it. Four municipal and four Government wells have been reserved solely for drinking purposes. Their mouths are, however, unprotected, and they have no masonry parapets or platforms around them, consequently the spill water pervades and finds its way back to them. There are numerous private wells, but they are in a bad condition and sadly need repair.	The conservancy arrangements of this town are worse than before. Surface cleansing is imperfectly attended to for want of adequate establishment. There are only three public latrines for males and none for females, against nine for males and one for females last year. The other latrines have gone out of use and are not maintained by the municipality. The existing ones are in a bad condition, and are very little used by the people. There are many private latrines, about three-fourths of the inhabitants are said to have these conveniences of their own; but they are ill-constructed and consist of mud and grass structures. Night-soil from the public latrines is said to be trenched. That from the private latrines is removed by private men daily and thrown into the jungles surrounding the town. The condition of the cattle-sheds and the markets is satisfactory, but that of the private slaughter-house is very objectionable. Both internments and cremation are carried on properly.

Purneah—Bural ...	138,704	17-90	30	02	<p>Most of the villages are situated on high land, and the natural drainage in them is little impeded. But the drainage system of the thana is defective. There are no house drains; sewage and filthy water run out from the houses into the streets, and there seeps into the ground. The fall is into the swampy tract of land towards the south-east. The low-lying portion of the country is inundated yearly. Some of the roads have side-drains; they are free from obstruction and are clean.</p>	<p>Is taken from shallow kutchia wells, very few of which have masonry parapets. The mouths of the wells are open. In some places they are surrounded by pits and excavations containing filthy water, and are exposed to much pollution. Refuse, &c., from cowsheds are thrown near them. Bathing and washing being performed near the wells, their surface is always damp. The water supply in this thana is not sufficient. River water is not drunk.</p>	<p>The houses are built of split bamboos with thatched roofs, and are raised on mud plinths. They are dry and kept clean, but having only one door and no windows, are ill-ventilated. Sweepings, refuse and filth of all sorts are thrown and accumulated near houses. Cattle are kept close to dwellings and are crowded together. Their litter is partially removed and dried for fuel and occasionally used as manure; but much remains rotting in heaps near the dwellings, and with the urine sodden the soil with organic matter, which also drains out into pools by the roadsides and between the houses. No conservancy arrangements exist. Fields and paths on the outskirts of villages and waste places between houses are used as latrines. Roads are clean and some are planted with trees. Dead cattle are thrown everywhere in ditches and on the outskirts of villages. Hindus burn their dead on the banks of the rivers Kosi and Bocha. Some throw them into the river incompletely burnt. Mahomedans bury at a little distance from their houses, but at no fixed site.</p>
Koiba Amour—Bural.	124,880	19-42	1-43	13	<p>Some villages are situated on low and some on high ground. The former are subject to inundation, and remains under water during the greater part of the rainy season.</p>	<p>Is taken from rivers and wells. The water of the wells is said to be good. Their mouths, however, are open, and their surface is always damp, as bathing and washing are performed near them. The banks of the rivers are used as latrines.</p>	<p>Houses are crowded together and ill-ventilated. Their floors are damp. Conservancy arrangements exist. Sweepings and refuse are thrown near houses and cow-dung is heaped in front of them. Cattle are kept in the compounds of houses. Defecation is carried on mostly in the nearest fields, but the footpaths, which are otherwise dirty, are also used as latrines. Dead cattle are thrown outside the villages, and in many places near the houses. Some of the inhabitants burn their dead in the banks of the river Baus, and some throw them into the river after only touching their mouths with fire.</p>
Dandaha—Bural ...	100,391	18-75	1-02	01	<p>Some of the villages are on high and some on low ground. The latter are subject to inundation every year. The water flows into the numerous ditches and hollows, which impedes the natural drainage of the country. In some villages there are no roadside drains.</p>	<p>Is taken from tanks and shallow wells, and the quality of the water is indifferent. Some of the wells are protected by masonry parapets. The mouths of the wells, however, are uncovered, and branches of trees overhang them. Some are surrounded by filthy pits and are exposed to much pollution. Bathing and washing are performed near them. River water is not drunk.</p>	<p>Most of the houses are built on low ground. They are damp and ill-ventilated, and are crowded together. No conservancy arrangements exist. Refuse, &c., are not removed. Cattle are kept separately but close to houses. Their litter, &c., are heaped in front of houses. There are no proper roads, except some cart roads. There are numerous filthy ditches around houses, which as well as the nearest fields and waste lands are resorted to for defecation. Dead cattle are thrown into the nearest fields and ditches. Some of the Hindus burn their dead on the banks of the river Kosi, and some throw the dead bodies into the river without burning them. Mahomedans bury their dead in the nearest fields at a distance of about half a mile from the houses. The people are generally speaking, very dirty in their habits. They seldom bathe or wash their clothes.</p>
Gondwana and Carrmola—Bural.	123,945	20-67	25	00	<p>Same as in thana Dandaha described above; but the southern portion of the thana is more low-lying and marshy, and therefore subject to inundation.</p>	<p>Is obtained from several pucca wells and the river Kala Kosi. The water of the wells is said to be good; but their mouths are open and are subject to pollution. Some of them are near filthy pits and excavations.</p>	<p>Some of the houses are on high and some on low ground. They are damp, ill-ventilated, and crowded together. Compounds are surrounded by houses are very dirty. Sweepings and refuse are not removed. Cattle-dung is kept in heaps near houses. The roadways are very dirty. No conservancy arrangements exist. The nearest ditches, fields, and waste places are resorted to for defecation. Hindu dead are cremated on the banks of the river Kala Kosi. Mahomedans generally bury their dead outside the villages, but the well-to-do bury in the compounds of their own houses.</p>

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

RATIO OF DRAINS FROM—
PER 1,000 OF POPULATION.

District.	Name of Circle.	Population.	Ratio of Drains from— per 1,000 of Population.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Puneah	Attariah—Rural ...	200,013	'004	17.53	'99	'01	Some of the villages are on high and some on low ground; the latter are subject to inundation. The natural drainage of the higher villages is less impeded, and that of the lower is obstructed by fishing wells.	Is taken from rivers Bahra, Parman, and Bahra, and from pucca and kucha wells. The water of the river is highly polluted by bathing and washing, and by the washing of hides by the Chamars, who carry on tannery businesses on their banks. The river banks are also used as latrines. The water of the reputedly best wells, although said to be good, is turbid. The margins of the wells are raised, but their mouths are open. Bathing and washing are also performed near them. In some villages the water-supply is scarce during the dry season.	Houses are built of split bamboos with thatched roofs, and are raised on mud plinths. Their floors are damp. Sweepings and refuse are kept close to houses, and a great deal of filth, cattle-droppings, and refuse of all sorts are left lying about villages. Cattle are separately kept and their sheds are daily cleaned. No conservancy arrangements exist, and the nearest fields and waste places are resorted to for defecation. There are no high roads, but the small paths are clean. Some of the Hindus burn their dead on the banks of the river Parman and Bahra and the nearest water channels, and some throw the dead bodies into the rivers without burning them. Mahomedans also bury on the banks of the Bahra river and close to their dwellings.
	Maliari—Rural ...	94,115	.....	20.63	1.90	.....	Drainage is defective. Numerous pits, ditches, hollows, and water channels serve as drains. These are obstructed in many places because they are not connected with each other. The country is somewhat elevated and is not therefore subject to inundation, but the surrounding fields are inundated by the river Parman.	Is taken from shallow wells, tanks, and the river Parman and Jhils, in many of which latter jute is steeped. The banks of the river are used as latrines.	Houses are on raised floors and are crowded together. Except in the case of the huts of the lower classes, the enclosures of the dwellings are usually kept clean. Sweepings are simply thrown down and allowed to accumulate immediately outside the dwellings, often heaped up against the wall and by the side of the doorway or are thrown into adjoining hollows. Fluid refuse from houses is allowed to run into footpaths. No conservancy arrangements exist. The intervening waste lands between houses, fields, and footpaths are used as latrines. Cattle are housed separately, but within enclosures of houses. Their litter is partially removed and dried for fuel and occasionally used as manure, but much remains rotting in heaps near houses. Some of the Hindu dead are cremated on the banks of the river Parman, and some are thrown into it and a small bheel on the west of the village Isaladi Amhara. Mahomedan dead are interred within the village and close to houses.
	Raniganj—Rural ...	107,552	'02	24.89	4.63	'11	Some of the villages are on high ground. Drainage is defective. It flows into numerous pits, ditches, swamps and water channels, which are obstructed in many places because they are not connected with each other.	Is taken from pucca and kucha wells, usually situated close to cowsheds. The mouths of the wells are uncovered. In some places pits containing stagnant water surround them, and they are consequently liable to pollution. Bathing and washing are also performed at them.	Houses are substantially built on raised ground. They are ill-ventilated and damp. Surroundings of houses are filthy. Refuse of all sorts is thrown outside the dwellings and into ditches. Cowsheds are crowded and are kept unclean, but they are separate from dwelling-houses. Cowdung is heaped in the compounds of out-houses. There are no proper roads. Intervening waste lands between houses and adjoining ditches serve as latrines. Dead cattle are thrown into ditches all round the villages. Hindu dead are either partially cremated and thrown into the rivers Kosi, Farnai, and Lachhabhur; or wholly cremated on the banks of those rivers. Mahomedans bury their dead close to their bustis.

Kisanganj—Zawal	158,100	.....	19-87	'16	'01	Villages are situated on somewhat elevated ground, and are not therefore liable to inundation, but the surrounding fields are inundated every year. This thana being less swampy than the others, its natural drainage is less impeded.	Is obtained from shallow butcha wells, which are situated in objectionable sites with filthy pits and ditches around them. In some cases they are close to cow-shed and are liable to pollution. Bathing and washing are performed at them.	Houses are irregularly built, but not crowded together. They are, however, ill-ventilated, and their floors are raised, are damp, and are surrounded by the village, which as well as the waste land around houses and fields serve as latrines. No conservancy arrangements exist. Sweepings and refuse are left near houses. Cattle are housed separately, but within the compounds of dwelling-houses. Cow-dung is heaped up near houses. Flind refuse, &c., from houses are allowed to run into footpaths. Carcasses are thrown everywhere around villages. Hindu dead are carried a mile away from villages and are burnt there or thrown into dars and the Sudhannoo river, but at no fixed place. Mahomedans bury their dead at a distance of about a quarter mile from their dwellings, and in some cases close to their dwellings.
Bahadurganj—Zawal	186,142	'005	19-96	'08	'06	Most of the villages are generally low-lying and are intersected by sluggish rivulets—branches of the Kanhal river—and semi-silted up water-courses and marshes, and are more or less subject to inundation in the rains. The soil of the thana is sandy, damp moist, and water-logged.	Is taken from filthy pools, tanks, wells and the rivers Mohanunda and Kanhal. The water of the Kanhal is very bad, and its banks are used as latrines.	The houses are crowded together and ill-ventilated. No conservancy arrangements exist. Sweepings and refuse are not removed, but are thrown around houses. The location is carried on in the waste lands and on the banks of the rivers. In some villages jute is steeped in the tanks, the water of which is used for bathing purposes and for watering cattle. There are four burial grounds for Mahomedans in the village of Bahadurganj and one in Dhanpura; the latter is overfilled with graves. Some of the Mahomedans of other villages bury their dead round about villages. The well-to-do Hindus burn their dead on the banks of the Kanhal river, and rest throw them into the river Mohanunda.
Kaliaganj—Zawal	277,069	'03	19-82	'13	'05	The thana is rich in water-courses, but as it borders upon and forms part of the Terai, the natural drainage is deficient, and small marshes are common. Drainage is also impeded by fishing weirs. Villages are generally low-lying with considerable jungle undergrowth near the houses, which are usually situated near a water-course or marsh. The surrounding country is subject to inundation in the rains.	Is taken from numerous shallow wells, tanks, jhils, and the rivers Mohanunda, Booteesungur, Chingra, Fulla and others. The water of the jhils is highly polluted by the steeping of jute in them, and the banks of the rivers are freely used as latrines. The wells are usually in the vicinity of the dwellings and exposed to much pollution; they are commonly simple excavations in the ground.	The houses are built of split bamboos with thatched roofs, and are raised on mud platforms about two feet above the surrounding level. Keeping the bats of the lower classes, the enclosures of houses are clean. But sweepings, &c., are simply thrown down and allowed to accumulate immediately outside the dwellings, or thrown into any adjoining hollows. The fluid refuse is usually thrown down within the enclosures of houses, resulting in a puddle. Latrines are absent; the fields, footpaths, and the banks of the rivers are used as such. Pigs are kept in great numbers, but while they act as scavengers, they also contribute largely to the filth of the place. Dead cattle are thrown upon the outskirts of villages. Hindu dead are generally buried, not burnt on the banks of the rivers and jhils, but they are occasionally thrown into the water-courses. Mahomedan dead are interred usually in private compounds close to houses and on the banks of the jhils and tanks.
Kudwa and Saifganj—Zawal	134,275	'03	20-29	1-03	'11	Some of the villages are on high and some on low ground. Drainage is defective. It flows into numerous ditches and swamps. Soil being sandy and dry, absorbs the moisture.	Same as in Purneah thana described above.	Same as in Purneah thana described above.
Bulrampur—Zawal	115,031	.....	19-18	'38	'07	Most of the villages are on high ground and are not therefore liable to inundation, but the surrounding fields are inundated every year. There are numerous swamps and marshes.	Is taken mostly from wells, which are situated in offensive sites and close to filthy pits and ditches. The water of the wells is impure and unclean. The low caste people obtain their drinking water from the river Gora.	Houses are built on low land, and their floors, though raised, are damp. Surroundings of houses are unclean. Sweepings and refuse are thrown around houses. No conservancy arrangements exist. Defecation is carried on promiscuously on waste lands and fields. Cattle are kept close to dwellings, and their litter is kept in heaps and partially dried for fuel and occasionally used as manure. Hindu dead are burnt on the banks of water-courses or thrown into them. Mahomedans bury their dead within a distance of about 40 yards from their dwellings, but at no fixed place. Dead cattle are thrown into nearest ditches and fields.

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Small-pox.			
Puneah ...	Manihari-Bazar ...	54,456	.....	20.73	73	07	Except the southern portion of the thana, which is low-lying and subject to inundation, the villages are on high ground. There are numerous pools, hollows and filthy tanks, and the drainage flows into them. The natural drainage of the place is deficient, and no attempt is made to improve it.	Is taken from wells, tanks and the river Kosi. The wells are in bad order and require repairs, and the tanks receive the house drainage, and are highly polluted in every way.	Houses are ill-ventilated, damp and crowded together; their compounds and surroundings are very filthy. Sweepings and refuse lie near by. No conservancy arrangements exist. The banks of tanks and waste lands are used as latrines. Cattle dung lies rotting in heaps in front of houses and by the sides of streets, being apparently kept for manure and partially used as fuel. The fluid refuse from cowsheds drains into pools at roadsides and between houses. Hindun dead are burnt on the banks of the rivers, but in the extreme southern portion of the thana they are thrown into rivers Ganges and Kosi. Mahomedan dead are buried usually within private compounds of dwellings.
Maidah ...	English Bazar— Bhohahat—Bawal.	12,430	.....	8.12	24	1	The drainage of this town is very defective. There are several pucca and kutcha drains. The pucca drains are badly constructed and defective in level, without proper fall. They are universally blocked and form elongated cesspools of black putrid fluid, and smell very bad. No attempt is made to keep them clean. The kutcha drains are also deficient in level and obstructed. Almost all the drains lead to tanks, ponds, pools, and deep ditches in thickly populated localities, and discharge their contents into them during the rains.	Is taken from the river Mohananda and from more or less filthy tanks and wells. There are 10 Government tanks which are protected, and into which river water is let during floods through the pucca drains. The private tanks are generally situated near house drains, well-privies, middens, &c. The wells being mostly unprotected, receive inward drainage, and are used for all purposes. The river water becomes muddy during the rainy season. The water of one of the wells is good.	The conservancy arrangements are very unsatisfactory. Surface cleansing is imperfectly attended to for want of adequate establishment. Only the main streets are swept daily, and the lanes, &c., once a week only. Rubbish, &c., are kept in the corners of streets and lanes. Fluid refuse from private houses runs into the municipal drains to dirt or decompose. There are 20 public latrines, which are only of mat structures; they are not kept clean, and consequently not much resorted to. People prefer defecating elsewhere. There are many private latrines which are badly constructed and difficult to keep clean. The night-soil from the public latrines when removed is trenched near by, and that from the private latrines is thrown into any convenient place. The town is full of filthy pits and offensive tanks. Mahomedans bury their dead in mango groves or in their house compounds. Some of the very poor low caste people throw their dead into the river. The arrangements connected with cremation are satisfactory, and it is carried on at the burning ghats on the banks of the Mohananda river. The condition of the market is bad, but that of the slaughter-house is fair.
Maidah ...	English Bazar and Bhohahat—Bawal.	71,615	.....	27.06	3.23	16	Most of the villages are raised and above inundation level, especially those near the banks of Bhagirathi and the numerous dhars of the dead Paga and Ganges rivers. There are numerous hollows, which retain water for many months after the rains.	Is obtained from wells, jills, and river Mohananda, Bhagirathi, Kalindra and Paga. The water of the rivers is highly polluted by washing of clothes by dhobies and by throwing of corpses into them.	Houses are raised and dry, but they are ill-ventilated. Some of the villages are clean, but most of them are very dirty. Sweepings and refuse of all sorts are thrown and accumulated near houses. A considerable amount of human ordure is to be seen outside the villages and on the paths. No conservancy arrangements exist. The nearest ditches and footpaths are used as latrines. Cattle dung is accumulated in heaps near houses and is used as manure. Hindun dead are cremated on the banks of the rivers Mohananda, Bhagirathi and Kalindra; but the dead bodies of children are buried on their backs. Mahomedans bury near the jhill.

Old Maldah - Town	5,535	.....	20'42	1'06	1'63	Drainage is very defective. The low ridges between corresponding high strips of land, which form a distinguishing feature of this town, are the principal outlets of drainage. In places where the levels have been interfered with by the taking of earth, water collects and forms foul cess-pools. There are extensive pucca drains along the sides of the streets, but they are blocked by rubbish, &c., and are in a filthy condition. No attempt is made to keep them clean.	About two-thirds of the people of the town take their drinking water from the river Mohananda, which is seriously polluted by defecation on its banks and by the throwing of dead bodies into it. The rest of the people draw their supply of water from the river. Dahanakunda, Daka Jull, tanks and wells. The tanks which are flushed annually by river water are used for all purposes. There are several protected wells which are used solely for drinking, and the rest of the wells are in a more or less satisfactory condition. Some of the private tanks are very objectionable.	There is practically no conservancy. The whole of the town is littered with filth and rubbish. Rubbish, &c., lie in heaps on the streets and by-lanes. Defecation is promiscuously carried on on the banks of the rivers and in the numerous hollows about the town. There are no public latrines. The private privies are never cleaned, they drain into the hollows and drains. Hindus, as a rule, burn their dead on the banks of the rivers. There is no fixed place for burning. Mahomedans bury their dead superficially, and the result is that the graves are dug by jacks, the corpses being thus often exposed.
Maldah - Rural	45,861	.....	34'09	'44	.....	No special information is yet available.	Is taken from rivers Kalindra and Mohananda. Quality of water not stated.	No conservancy arrangements exist. Sweepings and rubbish of all sorts are not removed. The villages are in a very filthy condition. Cattle are housed in open sheds adjoining dwelling-houses (cattle dung and litter lie scattered all over the village. People ease themselves on the banks of the river Mohananda and on the footpaths. Hindu dead are thrown into the river.
Gazole - Rural	54,317	.....	24'23	'47	.....	Particulars regarding the sanitary condition of this thana are not yet available.	Is taken from rivers Ganges and Kalindra and shallow wells. The water of the rivers is highly polluted by surface drainage and corpses, and also by the tanks being generally used as latrines.	Houses are substantially built and are at considerable intervals; villages are full of jungles. Sweepings and refuse are not removed, but are accumulated near houses. Defecation is promiscuously carried on. Cowdung is heaped by the sides of houses. The Hindu dead are thrown into rivers. Mahomedans bury their dead by the sides of roads and in the compounds of houses.
Ratna or Gorgoribha - Rural	80,024	.....	26'22	1'52	'08	The villages are situated generally on low ground and are flooded in the rains.	Is taken from the rivers Ganges, Kalindra, Ghoga, and Kunhul, and tanks and wells. The rivers are highly polluted by the corpses and surface drainage, and by their banks being used as latrines. Bathing and washing are also performed in them.	Houses are built on raised floors. They are crowded in places and ill-ventilated. The intervening spaces between houses are very dirty; they as well as the dried-up channels and river banks are used as latrines. Refuse of all sorts is thrown around the houses and into ditches. Cattle sheds are separate; they are unclean. Cowdung is kept in heaps near houses. Dead cattle are thrown into the nearest fields. Hindu dead are burnt on the river banks; some are thrown into rivers. Mahomedans bury at a distance of about one mile from their houses.
Kharbo - Rural	103,051	.....	26'21	'57	.....	Villages are generally low-lying and are subject to extensive inundation by the Ganges. Drainage is obstructed by numerous ditches and ponds. Backside drains are very filthy, and are full of filth and refuse from houses.	Is taken from rivers Ganges and Mohananda, wells and tanks. The quality of the water has not been stated.	Houses are substantially built amidst bamboo clumps and dense jungle. Refuse and filth are collected near dwellings and in streets. People ease themselves on the banks of the rivers and on waste land. Bamboos are steeped in the river at the south end of village Partipur and immediately above a ghāt which supplies the drinking water. There is a burial-ground in the village of Moharajpur, which is quite insufficient for local requirements. Mahomedans bury their dead within the compounds of houses. Hindus burn their dead on the banks of the Ganges.
Gomastapur - Rural	52,810	'01	36'43	1'57	'15	Particulars regarding the sanitary condition of this thana are not yet available.	Same as in English Bazar - Rural described above.	Same as in English Bazar - Rural described above.
Kaliachak - Rural	115,692	.....	20'26	'39	.....	Same as in English Bazar - Rural described above.	Same as in English Bazar - Rural described above.	Same as in English Bazar - Rural described above.
Shitganj - Rural	102,182	.....	27'78	'39	.....	Villages are generally low-lying surrounded by marshes and subject to inundation. Numerous filthy pools interspersed throughout villages receive the drainage which stagnates in them.	Is taken from rivers Ganges and Mohananda, wells and tanks. The quality of the water has not been stated.	Houses are substantially built amidst bamboo clumps and dense jungle. Refuse and filth are collected near dwellings and in streets. People ease themselves on the banks of the rivers and on waste land. Bamboos are steeped in the river at the south end of village Partipur and immediately above a ghāt which supplies the drinking water. There is a burial-ground in the village of Moharajpur, which is quite insufficient for local requirements. Mahomedans bury their dead within the compounds of houses. Hindus burn their dead on the banks of the Ganges.

SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				D drainage.	Water-supply.	Domestic cleaning.
			Small-pox.	Fever.	Cholera.	Howel-com-pliments.			
Maldah	... Nawabganj—Batal	66,453	...	32.45	1.17	16	Particulars regarding the sanitary condition of this thana are not yet available.		
Sonthal Pergunahs	Deoghur—Town	8,005	...	4.67	4.24	2.12	This town being favourably situated, the natural drainage is good, but the drains are not well looked after. They generally empty into tanks and bundhs, and in some cases into hill streams. Some of the drains are insufficient in capacity and require widening in places. The pucca side-drains throughout the town are generally in good order.	Is obtained from tanks, bundhs, wells, and a hill stream. It is sufficient in ordinary years, but runs short during periods of continued drought. Only one tank, called the Jalshar tank, has been set apart for drinking; the others, as well as the bundhs, being resorted to for miscellaneous purposes. These latter are not properly protected from pollution. The custom of throwing sweepings in the catchment area of the bundh and either leaving or burning them there, should be at once discontinued, as it must seriously foul the water-supply. A bundh is under construction near the sub-divisional officer's house, which will be a convenience to the people.	Surface cleansing is attended to. All the streets and lanes are swept daily and the sweepings, &c., are carted off to the place fixed for the purpose and there burnt. The condition of the cow and other cattle sheds is unobjectionable. There is only one public latrine near the Bhairub taluk with separate compartments for females, but as it is seldom or never cleaned, it is not resorted to. About three-fourths of the inhabitants are said to have privies of their own, but they are not regularly cleaned. There is no trenching ground. The night-soil from the privies is carried beyond the limits of the town and thrown on the surface to dry up. This is objectionable.
	Dowchur and Jamtara (Madhopur and Sarath)—Batal	339,065	1.05	19.07	5.56	7.07	The natural drainage is good owing to the village sites being on elevated ground.	Is taken from small wells and rivulets, the water of which is said to be good.	The houses are generally erected in lines along pathways, but they are devoid of internal ventilation, and crowded with inmates. Cattle are kept within them in some places, but they and their court-yards are usually swept carefully. No conservancy arrangements exist, but the roadsides are not often resorted to for defecation, &c., and consequently the villages wear a cleaner appearance than is generally the case in rural tracts. Cremation is carried on on the banks of the Gaures, near a rivulet or at the foot of a hill, and a piece of waste land near the village is used for burials.
	Dumka—Batal	363,186	...	9.71	1.11	1.11	The natural drainage is free, owing to the villages being situated on elevated ground.	Is taken from the river and from wells. Tanks are used for bathing and washing purposes.	The houses are mud-walled with thatched roof, but they are without ventilation and crowded with inmates at night. Sweepings and other house-refuse, both liquid and solid, are accumulated in every village near each house. The cow-sheds are within the compounds of houses, and are not kept clean. No conservancy arrangements exist, and there are no roads in many villages. Defecation is promiscuous.
	Bajmehal (Sahelkari Burera)—Batal	245,318	1.01	10.31	3.33	2.24	Drainage is defective and obstructed in places. The ground being unequal in level impedes free surface drainage of rain water, which consequently accumulates, and, by sub-soil seepage, renders the soil damp.	Is taken from the river and from wells. Tanks are used for bathing and washing purposes.	The dwelling-houses are scattered, walled with mud and thatched with straw. They are devoid of internal ventilation, and are crowded with inmates at night. Sweepings and other house-refuse, both liquid and solid, are accumulated in every village near each house. The cow-sheds are within the compounds of the houses, and are not found clean. No conservancy arrangements exist. Cremation is carried on on the banks of rivulets and at the foot of hills, and burials of the Mahomedan dead take place on waste lands selected for the purpose.

Sonthal Parganahs...	Pahour (Mahespur) --Zarai.	204,919	.....	14/63	'31	'59	Drainage is defective. There are pits and excavations into which the water flows and stagnates.	Is taken from tanks, wells, and rivulets. Well water is said to be good.	The houses are crowded together and are ill-ventilated. Sweepings and refuse matters are accumulated near the dwellings, and removed only when required for manure. No conservancy arrangements exist. Defecation is promiscuous.
	Goida (Mohagawa and Podanya)--Zarai.	348,40	.....	13/89	'22	'14	The natural drainage is good, owing to the villages being situated on high ground.	Same as in Dumka rural described above	Same as in Dumka thana described above.
	Sahelganj--Town.	8,507	.....	51/72	12/57	1/88	The drainage is satisfactory. There are both pucca and kutcha drains. The new pucca drains were nowhere clean or in the condition in which they ought to be. This should be looked to.	Wells and the river Ganges are the chief sources of the drinking water-supply of the town. Much inconvenience is felt during the dry season when the main stream of the river recedes to a distance. The present supply is not quite sufficient for the requirements of the town at all seasons, and requires to be considerably supplemented by the provision of more wells at convenient places. There are two municipal tanks, but they are used for all purposes.	Surface cleansing is fairly well done. There are five public latrines. About half the inhabitants are said to have private privies consisting mostly of sundresses. They are attended to by municipal men, and seem to be well managed. The night-soil is properly trenched. The arrangements under the head of "disposal of the dead" are on the whole fairly good.

Cuttack	Cuttack--Town	43,239	'06	3/26	2/49	1/71	Drainage is on the whole fair, excepting that when the Katjuri river is in flood the discharge of the main drain which empties into the river is stopped, and the town drainage is headed back. The house drains are generally filthy.	Is both deficient in quantity and bad in quality. The chief sources from which water is drawn are--wells, tanks, and the rivers Mohanuddi and Katjuri. These are open to all sorts of pollution.	The arrangements under the head of conservancy are on the whole very defective, and in some instances highly objectionable. The arrangements relating to the disposal of the dead are far from satisfactory. The town, moreover, abounds with filthy pits and hollows containing water of the foulest description and full of decaying vegetation which constitutes a standing menace to public health, and as such requires to be got rid of as early as practicable.
	Cuttack--Zarai	155,333	'14	5/63	4/46	2/96	Drainage is defective. The kutcha roads and footpaths often serve as drains.	Is obtained from rivers Mohanuddi and Katjuri wells, tanks, and running streams. The water of the wells is generally good; that from the rivers is often, during outbreaks of epidemic disease, such as cholera, small-pox, &c., contaminated by the burning and burying of the dead on their banks.	The dwellings-houses are crowded, but freely ventilated. Personal cleanliness is limited to bathing. Cattle sheds are situated within the inner yards, and none of them are perfectly clean. Conservancy arrangements do not exist in any of the villages. Sweepings and refuse, &c., are heaped up in and around houses and on the surroundings of villages. The people resort for the purposes of nature to jungles, fields, roadsides, surroundings of tanks, and any other available places.
	Jajpur--Town	11,233	'44	4/71	2/31	2/34	The drains discharge into the river. Their condition is said to be good, but there is no regular establishment to look after them. Coolies are employed annually to clean the drains.	Is taken from wells and the river Baitarani. The supply is said to be good excepting during the rains. There are 16 wells belonging to the municipality, some of which are pucca.	Surface cleansing is partially attended to. The principal streets are swept daily; the lanes occasionally. Sweepings and garbage are employed in filling up holes and depressions. There are no public latrines. Defecation is carried on in the bed of the river, jungles, and on waste lands in and near houses. There are no well privies. The dead are interred in the compounds of houses and on the banks of the river Baitarani.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					SANITARY ESTIMATES OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Population.	Small-pox.	Typhoid.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Cuttack	Jajpur—Bazar	239,503	26	7.25	1.38	1.57	The villages of this thana being situated more or less on elevated levels, the natural drainage is fair.	Is taken from wells, tanks, rivers, and running streams. The supply is abundant, and pretty good.	The condition of the surroundings of the dwellings and their courtyards and cattle-sheds is fair. Ventilation is, however, defective. Country roads and common streets are kept pretty clean. No conservancy arrangements exist in any village. Defecation is promiscuous. The burial-ground and burning shed are far from the villages and sources of water-supply.
	Angul—Towns	Not available.					There is no system of drainage: the streets and roadsides serve as drains.	Is taken from wells. There are six pucca wells, all of which are surrounded with masonry parapets. The level of the water in them during the hot season is generally 30 feet below the ground surface. The Mathura, a small river is also resorted to, but it dries up in the hot season. There is also a big tank the water of which is excellent.	The dwellings, which are freely ventilated, form two lines with a broad pucca road between, extending to a length of one mile. The cattle-sheds are situated close to the houses, and the rubbish from them is removed and heaped up behind each house. There are no conservancy arrangements, but refuse, &c., are carried to the outskirts of the town.
	Kendrapara—Towns	15,697	49	6.56	1.65	1.65	There is no drainage system. The roadside drains are connected with the hills, which discharge into the fields beyond the town; the water is thence drained back into the Gobra nullah, which runs through the town. In consequence of this, no artificial drains are required.	Is taken from the Gobra nullah, the canal and tanks. It is said to be good and sufficient for both drinking and other purposes. In the hot weather and before the canal closes for repairs, water is let into some of the tanks.	Surface cleansing is attended to, but not sufficiently. Sweepings are utilized in filling up holes and depressions, and garbage is buried. There are no public latrines, and defecation is promiscuous. The arrangement connected with the disposal of the dead are satisfactory.
	Kendrapara—Bazar	176,323	1.03	9.30	2.60	2.18	Drainage is defective. The streets, which serve as footpaths and drains, are kept filthy.	Is taken from wells and tanks, which are not properly protected from pollution.	The floors of the houses are damp and ventilation is generally defective. Cattle-shed, and courtyards are kept unclean, and refuse, &c., are collected behind houses.
	Anul—Bazar	91,015	54	14.72	6.27	5.02	Drainage is defective. The village roads which serve both as pathways and drains are simply narrow footpaths between the rows of houses.	Is obtained from rivers, wells, and tanks. The river water is contaminated by burning and burning of dead bodies on its banks. The wells are everywhere protected from inward drainage by means of good parapets.	The houses in many villages are damp during the rains, their floors being almost on a level with the surrounding country. Cattle-sheds are close to the houses, but are kept clean. Conservancy arrangements do not exist in any village. The people defecate wherever they find it convenient to do so, and refuse matters of all descriptions are thrown into ditches. Firewood being very dear in this part of the country, the people are unable to afford sufficient fuel for burning their dead, and thus the bodies are sometimes only slightly burnt and thrown into the rivers.

Salepur--Beral	240,979	40	8-57	5-35	1-73	Drainage is very defective. The roads and pathways serve also as drains.	Is taken from wells and tanks. Well water is good, but the tanks are unprotected, and are therefore liable to contamination.	Almost all the dwelling-houses are made of mud. They are ill-ventilated; but their interior and courtyards are kept clean. Cattle-sheds are situated within the water yards, but the crowding and refuse matter are heaped behind houses. No conservancy arrangements exist in any village. The roads are used as latrines at night. The burring and burning places are far from each village and its sources of drinking water.
Tirto--Beral	183,677	34	8-71	1-17	2-50	Many villages in this thana are situated on low levels. The drainage is defective. The roads and pathways serve also as drains.	Is taken from wells, tank and sheels. The quality of the water is impure, as it is polluted in various ways.	The dwelling-houses are overcrowded and ill-ventilated. Negligence in personal cleanliness, carelessness in adopting proper means for the removal of sewage and refuse, the imperfect way in which the court-yards and surroundings of houses and cattle-sheds are cleaned, all combine to constitute unhealthiness in this thana. No conservancy arrangements exist in any village.
Jasasingpur--Beral	215,081	16	6-39	1-32	2-00	Drainage is not free anywhere, and the streets serve also as pathways and drains.	Is obtained from wells, tanks and rivers, and from the main and sub-canals. The water from the first three sources is excellent.	Same as in Cuttack--Beral described above.
Patamundi--Beral	108,401	58	11-23	4-3	7-30	Drainage is defective. The pathways, which also serve the purposes of drains, are kept clean.	Is obtained from rivers, wells and tanks. The river water is contaminated by the burring and burning of dead bodies on its banks. The wells are everywhere protected from inward drainage by means of good parapets.	Same as in Kendrapara--Beral described above.
Dharammala--Beral	248,768	79	11-21	2-64	1-48	The villages of this thana are situated, some on elevated and some on low lands. The drainage is defective. The roads, which are kutcha, are not provided with side-drains, and the streets answer the purposes of drains.	Is obtained from wells, rivers, tanks, sheels and khals, the last two being subject to contamination in various ways, cause sickness, such as cholera, fever, cold and bowel-complaints, to those who draw their water-supply from them.	The houses are built with mud and roofed with thatch, and are overcrowded with inmates at night. The floors, with very few exceptions, are free from frequent decay. Ventilation is generally defective. Personal cleanliness is neglected. Portions of dwelling-houses, and in some cases of sleeping rooms, are used by the poor for housing their cattle at night. Crowding is accumulated in pits excavated at a little distance from the dwellings. Refuse is thrown into khals near the villages. House sweepings and rubbish are heaped up close to many houses. The village pathways are used as latrines by the children and by adults at night. No conservancy arrangements exist in any village.
Banki--Beral	33,900	105	6-25	8-37	3-49	The villages are situated more or less on comparatively high levels, but notwithstanding this the drainage is very imperfect.	Is taken chiefly from the river Mohandury, but from tanks also, which are numerous. Very few of the tanks, however, contain good water.	The dwellings are mud-walled huts with thatched roofs. Ventilation is insufficient. Cows and goats are located near the dwelling-houses, and almost all of them are dirty. Cowdung is accumulated in pits at a little distance from the dwellings, and is removed only once a year. Dead cattle are removed to waste lands at a convenient distance from the houses. Cremation and interment of the dead are generally carried on on waste lands far from the villages and sources of water-supply.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.					SANITARY ESTIMATES OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		Domestic cleansing.
		Population.	Small-pox.	Eber.	Cholera.	Bowel-complaints.	Drainage.	Water supply.	
Puri	Puri—Town	24,784	24	19'08	14'78	9'88	The drainage is as bad as it can be, the whole place daily soaking in an enormous discharge of fluid of the worst kind, which during the rains becomes completely waterlogged.	The arrangements under the head of water-supply are very unsatisfactory, and require to be wholly revolutionized. Drinking water is taken from wells and tanks. On chemical analysis the water from these sources has been pronounced to be quite unfit for drinking.	Surface cleansing receives fair attention. The condition of cow and other cattle sheds is generally bad, and the dung, &c., from them are not, except in a few cases, properly disposed of, but collected within house premises, where it rots and fouls the atmosphere. There are eighteen public latrines for males and three for females. The dry-earth system has been introduced into the latrines, but it is carried out very badly. The night-soil from public and private privies is at first collected in the several night-soil depots and then removed for disposal to the respective trenching grounds every morning and afternoon in metallic night-soil carts. The trenching system at present followed is defective. The trenches should be dug in lines one foot deep and one foot wide and only a foot apart, and six inches only of night-soil should be put into them, the remaining space being covered with earth. Promiscuous defecation is very great here. The arrangements regarding internment are not satisfactory. Dead bodies are buried in shallow graves and at random. The arrangements in connection with cremation are unobjectionable.
	Puri—Rural	197,549	46	4'24	14'31	4'11	The villages of this thana are mostly situated on fairly elevated ground, but the drainage is not free.	Is taken from rivers and tanks; the water of the latter is in some places choked with weeds, but the quality of the water on the whole is said to be fair.	The dwellings are chiefly mud-walled huts built in rows and crowded together. Cleanliness in domestic matters is observed by Brahmans, but the lower orders of the people are very filthy in their habits. Conservancy arrangements do not exist in any village. Defecation is promiscuous. Cremation and internment of dead bodies are generally carried on at a convenient distance from the villages and sources of water-supply.
	Pipli—Rural	226,782	16	4'39	6'53	3'98	There is no drainage system, but the natural drainage of this thana is for the most part free.	Is obtained from rivers which dry up during the hot season, but water is also drawn from other sources, viz. tanks and wells, which are kept in good order. The quality of the water is good and the quantity sufficient throughout the year. The tanks, which are situated close to the pilgrim road, are, however, polluted to a great extent by all sorts of filth, including human excreta.	The houses are built conveniently apart from each other, and their floors are not damp. The villages, with very few exceptions, are free from jungles, but most of them are surrounded with coconut, date-palm and bamboo groves. Cattle are housed in sheds built in front of the dwellings, and their dung and urine are removed. Domestic cleansing is fairly attended to. Defecation is promiscuous. Places selected for cremation and internment of dead bodies are far from the villages and sources of water-supply.
	Khurda—Rural	269,478	21	1'97	0'53	2'42	Although the villages are situated mostly on high ground, the natural drainage is defective. There are no drains at all.	Is taken from wells and tanks; the latter dry up during hot season.	The houses are built close to each other, but are freely ventilated in most cases. House refuse is not properly disposed of. Cattle sheds are built separate from the dwellings, and manure pits and dung heaps are to be met with on their sides. There are no conservancy arrangements, and defecation is carried on anywhere and everywhere. Cremation and internment of dead bodies are carried on far from the villages.

Gope-Eural	116,167	29	709	953	494	The villages, being situated on low levels, are liable to inundation. There is no drainage whatever.	Is obtained from wells and tanks; the quality of the water is good, and the quantity abundant.	The houses have straw roofs, and are built on raised mud floors. Cattle are numerous, and their housing is not well attended to. The courtyards and compounds of houses are full of cowdung and cattle litter. No convenient arrangements exist in any village. The nearest crematorium is resorted to for defecation. Cremation is carried on near jungles far from the villages.
Ranpur-Eural	53,927	29	684	2011	403	The villages are situated on low levels and are thickly populated. Drainage is defective. The roads are not provided with side-drains, and the village pathways are full of human excreta.	Is taken from wells and tanks. The former contain good water, but the latter are everywhere subject to pollution by surface washings.	The dwelling-houses are for the most part overcrowded with inmates at night, and are ill-ventilated. Domestic cleansing is not at all attended to. Cattle are kept in sheds built close to, and in the inner yards of, the houses, which are never perfectly cleaned out. The surroundings of the houses are in most cases kept filthy with heaps of sweepings and rubbish. Conservancy arrangements do not exist in any village. Defecation is carried on anywhere. The grounds selected for cremation and interment of the dead are too close to the villages.

Puri

Balsore-Town	20,285	39	656	597	626	The natural drainage is fairly satisfactory. A good system of drainage is being steadily progressed with. During the year 1897 the chief improvement was an extension of the system of saucer-drains in two of the crowded parts of the town, in one of which consisting chiefly of pucca houses, the house-drainage is now efficiently got rid of, and thus a very great nuisance has been removed.	Is taken from the river Bura-balang, tanks and wells. Four tanks and one well, which are not adequate, have been reserved for drinking purposes. All other sources of water-supply in this town are impure.	Surface cleansing is properly done, but cow and cattle ordure is accumulated within house premises for manuring purposes. The rotting of these heaps of dung and other ordure matter all over the town cannot but have a prejudicial effect on the public health of the town. There are four public latrines which are cleaned as often as four to six times a day. The private privies, however, are kept in an offensive condition. The night-soil from both the public and private privies is removed to the trenching ground and buried in deep trenches. Promiscuous defecation is still carried on. The arrangements regarding defecation are satisfactory.
Balsore-Eural	87,490	718	546	333	546			
Baita-Eural	71,186	43	529	536	529			
Jelapore-Eural	65,102	63	527	531	597			
Soran-Eural	197,608	116	803	234	803			
Balaspur-Eural	86,226	89	919	816	919			
Bhudrak-Eural	169,572	28	784	504	897			
Basudebpur-Eural	71,354	50	1100	218	343			
Dhamnagar-Eural	132,321	64	1303	425	448			
Chandbali-Eural	51,926	57	1083	835	234			
Chandbali Port	Data not available	...	...	...	...	The embankments which have been constructed in every direction to keep out the sea have to a great extent impeded the natural drainage of this port.	Is taken from the rivers Dhamnagar and Baitarami, and from tanks.	Chandbali being a seaport, is the seat of merchants' firms, and people of various occupations live there, so that it deserves to be classed as a small town rather than as a village. There are no public latrines in the place, although thousands of strangers, mostly pilgrims to Jagannath, gather together twice a week. Defecation is promiscuous. The arrangements under the head of "Disposal of the dead" are satisfactory.

Balsore

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
			Small-pox.	Fever.	Cholera.	Bowel-com-plaints.	Drainage.	Water-supply.	Domestic cleansing.
Balsore	Narsingpur, Tributary Estate—Towns.	Data not available	...	...	...	...	There is no system of drainage ...	Is taken partly from wells and tanks, the water of which is more or less of good quality, but the main source of water-supply is the river Mohanadri, which yields an abundant and excellent supply of water both for bathing and drinking purposes.	The habits of a little more than one-fourth of the total population (21,000) are tolerably clean, but the low caste people are very dirty. The dwellings are mud-walled and thatched roofed, containing dark rooms, without proper ventilation. Cattle are housed close to dwellings in separate sheds, which are allowed to remain in a most dirty state. Cowdung, house-waste, &c., are collected in heaps in front and at the back of houses. Defecation is promiscuous. The arrangements under the head of "Disposal of the dead" are satisfactory.
	Baramba Tributary State—Towns.	Data not available	...	...	...	...	There is no drainage system. The broad kutcha main road of the town is provided with very shallow side-drains, which do not allow of free drainage during the rains.	Is obtained from wells and tanks. There are several private wells, but the general public cannot draw their supply of water from these. There are three or four wells on the sides of the main road of the town near which bathing and washing of clothes and utensils are extensively carried on. These wells require to be surrounded by masonry parapets in order to prevent refuse matters, surface drainage, and spill water from getting into them.	The dwellings consist of kutcha structures built close to each other in rows, and are ill-ventilated. House sweepings and refuse are generally collected in heaps in front and at the back of houses. Cattle are kept in portions of dwelling-houses and in sheds built close to them, and the proper removal of their dung and urine is altogether neglected. Surface cleansing is not properly attended to. No conservancy arrangements exist in any village. Defecation is promiscuous. The arrangements under the head of "Disposal of the dead" are satisfactory.
	Bampur Tributary State—Towns.	Data not available	...	...	...	...	Surface drainage during the rains finds its way to the adjacent fields. Only a few of the wards are provided with side-drains.	Is taken from wells, tanks and running streams. The quality of the water is said to be fairly good.	The dwelling houses are mud-walled and thatched-roofed, and their floors are highly raised. The interior of the houses is generally pretty clean, but ventilation in them is very defective. Cattle are kept close to dwellings. There are pits and excavations at convenient distance from the dwellings in which cowdung is removed and accumulated until it is required for manuring the fields. Defecation is promiscuous.
Hansibagh	Hansibagh—Towns	15,306	....	15-08	26	5-29	The drainage on the whole is fair. The main central nullah has been constructed pucca throughout the greater portion of its length. It appears necessary to make the outlet of this drain straight and wider after making the flooring of the upper part pucca.	Is obtained from tanks wells, and a lake. Two tanks which have been reserved for drinking purposes are in good condition, and provided with pucca ghats, and constables are stationed near them to prevent them from being polluted. There are five municipal wells that are used solely for drinking purposes. They are fully protected from pollution, but should be connected with chains running over pulleys, or attached to counter weighted lifters for drawing water.	General conservancy is well looked after, and the sweepings and rubbish are properly disposed of. More extensive public latrines with separate apartments for males and females are required. The arrangements for cleansing private privies are not satisfactory. Promiscuous defecation is common. The arrangements under the head of "Disposal of the dead" are quite satisfactory.

Hasaribagh—Bural	80,572	.....	15'59	'19	'51	The villages being mostly situated on elevated ground, and the ground being undulating, the drainage is pretty free; the rain water escaping into the adjacent bandhus, nullas, or rice-fields.	Is obtained from bandhus and kutcha wells, both of which sources are liable to contamination in various ways.	Personal cleanliness is not observed, and the villages are filthy. Rubbish and refuse are accumulated on pathways, and heaps of decomposing cowdung are to be met with everywhere.
Chakra—Town	11,900	'25	19'74	'33	3'44	The town is situated on elevated ground sloping towards the north-east, in which direction the greater portion of the surface drainage flows and ultimately falls into the Heronuddi, running on the east. The drainage of the villages Barjibexha, Baghu, Bordhi, and Kusunpore escape into the adjoining fields.	Drinking water is obtained from several pucca wells, which are provided with parapets, and surrounded by masonry platforms. Some of these wells are, however, situated on low land, and their surroundings are filthy. The water of the well in Kotolia is said to be pure and wholesome. Tanks are used for bathing and washing purposes.	Most of the pucca roads in the town are regularly swept every day. The dwellings, many of which are brick-built, are erected so close to each other as to preclude percolation of air. There are three public latrines. They are pucca, and kept pretty clean.
Chakra—Bural	53,118	.....	24'54	.....	'38	The drainage is generally good, except in villages situated on low ground which are liable to inundation.	Is from natural springs and kutcha wells, which are contaminated by promiscuous use.	The dwelling-houses are for the most part small thatched huts, generally in a dilapidated condition, and dirty, which is chiefly due to accumulations of cattle dung and to pigs, which are kept in the compounds of dwelling-houses.
Echak—Town	7,346	.....	81'13	.....	1'24	The roads are provided with shallow side-drains. The drainage is more or less free.	There are many pucca wells, and a tank in a tola called Forsai. The water of this tank is used for bathing and washing purposes. The wells are indiscriminately used.	The town has become overgrown with low vegetation since its abolition as a union. A few houses are provided with privies, which, however, are never cleaned, but the majority of the people resort to the adjacent fields for defecation.
Gawan—Bural	63,575	'01	21'33	'45	'84	The villages being situated on elevated ground, the natural drainage is free.	Is taken from pucca and kutcha wells, jheels, and natural springs. The water of the pucca wells is generally good, but that of the other sources of water-supply is unwholesome.	The dwelling-houses are mere small huts without ventilation, but they are kept clean. The houses surrounded by generally dirty, resulting from accumulation of cattle dung and house-sweepings.
Kashmat—Bural	47,004	.....	17'03	.....	1'01	The villages are situated on high ground, consequently the natural drainage is more or less free.	Is taken from rivers, wells, and natural springs. The quality of the water is not bad, except in a few wells and natural springs which are polluted by promiscuous use.	Dwellings are generally made of mud walls and thatched roofs covered with tiles and grass. They are merely small huts without ventilation. Defecation is promiscuous.
Chowparun—Bural	70,437	.....	17'54	'44	'83	The natural drainage is good on account of the elevated position of the villages.	Drinking water is obtained from wells, most of which are kutcha. The quality of the water is not good, as it is polluted in various ways.	The dwelling-houses are built of mud and roofed with tiles. They are ill-ventilated. The villages are kept in a dirty condition by the accumulation of cattle dung and house-refuse.
Baroda—Bural	59,303	'05	23'55	'06	'79	The natural drainage is free in most of the villages.	Is taken from wells, natural springs, and nullas, all of which are polluted in various ways.	The villages in this thana are, as a rule, filthy; refuse, straw, cattle dung, and house-sweepings being accumulated in different places.
Simaria—Bural	37,029	.....	29'05	'51	'54	The drainage of the villages which are situated on low ground is defective, but that of those situated on high ground is free.	Is obtained from natural springs, pucca and kutcha wells, bandhus, or tanks. Most of the last named dry up in the hot weather, and then the natural springs and wells are used promiscuously for all purposes, and their water is polluted to a great extent.	The villages are for the most part in a pretty clean condition. House-sweepings and the rubbish are burnt at intervals, and cowdung removed to the fields.

District.	Name of Circle.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				Drainage.	Water-supply.	Domestic cleansing.
		Population.	Small-pox.	Fever.	Cholera.			
			Howel-com-plaints.					
Hasaribagh	Giridhi—Towns	Data not available	...	...	...	This town is situated on sloping ground, extending from the south to the north and north-east. It is divided by the Hazari-bach road into a northern and southern portion; the natural drainage of its southern portion discharges into the side-drains of this road, but it has become defective from the drains having been neglected of late. The drainage of the northern portion flows into rice-fields.	Is obtained from wells, most of which are pucca and well protected by parapets and surrounded with masonry platforms; but they are used promiscuously for all purposes, and their cones of percolation are filthy, and yet their water, the level of which is within 4 or 5 feet of the surface of this ground, is reputed to be of good quality.	There are a few pucca buildings, but the rest are mud walled with tiled roofs, erected on low plinths, and are ill-ventilated. About a fourth of the population have surface privies of their own most of which are regularly cleaned; but the rest instead of being trenched is thrown into the adjacent field. Defecation is carried on by the majority of the people on the roadsides and fields, or in any convenient or hidden corner.
	Pachamba or Giridhi—Bural.	86,697	...	25 56	22	The villages being situated on elevated ground, the drainage is more or less free.	Is taken from the rivers Oosri and Barakur, several rivulets, nullas, bandhas, and kitchen wells. The rivers are chiefly used for washing purposes. On the whole the water-supply is impure.	The villages are as a rule filthy. There are no proper pathways. House-refuse and rotting cowdung are accumulated near the dwelling-houses, and promiscuous defecation is common.
	Jugsewar—Bural	63,693	...	22 55	03	The villages being situated on elevated ground, the natural drainage is free.	Is generally obtained from kutchas, and in a few cases from pucca, wells which have filthy surroundings, and are promiscuously used for all purposes. The water-supply of this thana is also drawn from small streams and shallow pools.	Some of the villages are situated in jungly and hilly tracts. They are for the most part in a filthy condition, with heaps of decomposing cowdung behind, and against the walls of the dwelling-houses, and with the pathways covered with refuse, straw and rubbish of all kinds as well as with human excreta.
	Barhi—Bural	62,054	...	17 75	34	The natural drainage is free	Is obtained from kutchas wells and from streams. The well water is of rather saltish taste, and not quite palatable.	Same as in Begoda thana, described above.
	Dumri—Bural	63,685	...	25 40	227	The villages being situated on elevated ground, the natural drainage is free.	Is taken from wells, nullas, and natural streams. The level of the well water is at a considerable depth below the surface of the ground.	The general condition of the villages in this thana is much like that of those in Ranchi thana described below.
Hasaribagh	Kharakdha—Bural	110,545	...	16 35	03	The sites of the villages are on elevated ground, and the natural drainage is free.	Is from nullas or small streams, bandhas, and wells, of which some are pucca. The bandhas are used for washing and bathing purposes. The wells, most of which are not protected by parapets and have filthy surroundings, are promiscuously used.	With a few exceptions, the villages are small, and consist of clusters of tiled and thatched huts. The villages and the pathways are generally filthy, mainly because the village contains a larger number of cattle than it can accommodate. Cowdung and refuse-heaps are to be seen everywhere.
	Koderma—Bural	73,802	...	16 90	06	The drainage of villages situated on high ground is free, but that of those situated on low land is defective.	Is obtained from wells, some of which are pucca and from small streams, which are used for bathing and washing clothes and cattle. The quality of the water is not good.	In many villages the houses are crowded together and generally ill-ventilated. The pathways in the interior of villages are kutcha, narrow, and drabness, and are kept in a dirty and unwept condition. Promiscuous defecation is general.

Montegani-Esrai	56,954	.....	29'09	9'60	'26	The villages being on elevated ground, the natural drainage is more or less free.	Is taken from the river Moorhar as well as from wells and tanks. The quality of the water is good.	Overdug and other refuse are generally seen near dwelling-houses in almost all the villages. No conservancy arrangements exist. Defecation is promiscuous.
Bangari-Esrai	72,903	.....	20'38	'35	'08	The villages being situated on elevated ground, the natural drainage is more or less free.	Is from rivers, nullas, bandhas, wells, and shallow tanks. The water from all these sources is more or less polluted.	Personal cleanliness is not observed, and the villages are, without exception, in a dirty condition. Promiscuous defecation is common and accumulations of cow-dung, and house-sweepings are to be seen everywhere.
Tandwa or Peghar-Esrai	55,750	'01	24'11	9'10	'64	The villages being mostly situated on high ground, the natural drainage is free.	Is obtained from rivers, wells, bandhas, and nullas. The bandhas are generally used for washing and bathing purposes. Some of the wells are polluted and protected by parapets, but they are promiscuously used, and dry up in the hot weather. The running streams are polluted by the washing of clothes and cattle, and by defecation on their banks.	The houses are built of mud with tiled roofs, and are ill-ventilated and crowded at night. The villages, with some exceptions, are kept in a pretty clean condition, house-sweepings and rubbish being burnt at intervals, and ashes, refuse, straw, and cattle-dung deposited for manure in pits in the fields at a distance. In some villages the cow-dung from the dwelling-houses is used as fuel. As a rule the fields are resorted to for defecation.

Hassribagh

Ranchi-Tons	18,443	'16	6'38	'70	1'30	The drainage of the town, on the whole, is satisfactory. With one exception all the drains are kutchas, but they act freely.	Is taken from wells and tanks. The public wells are generally protected, but in the two at the public market the masonry is so much broken that it readmits spill water into the wells. The wooden frame work over many of the other wells is in such a dilapidated state as to be positively dangerous. These defects require immediate attention. The tanks are used for bathing and washing purposes.	General conservancy is fairly well done, and the sweepings, &c., are properly disposed of. The condition of the cow and cattle-sheds is objectionable. There are four public latrines for males and four for females. This number is evidently insufficient for the requirements of the town. More of these at convenient places are urgently required. Night-soil is deposited in deep pits instead of in shallow trenches, and covered over with earth. More trenching grounds are required conveniently situated to the public latrines.
Ranchi-Esrai	122,153	'07	14'12	'40	2'67	The natural drainage is good, as the rain-water drains out completely into the fields. In some villages the drainage is obstructed by vegetation.	Drinking water is taken from kutchas, unprotected wells, which are also used for other purposes. There are tanks exposed to surface pollution, but they are only resorted to for the washing of cattle and clothes. In some places water is taken from doris, which are open to pollution. Where rivers exist, their water is used for all purposes. Water from the nullas is not drunk, but clothes and cattle are washed in them. Jute is steeped in nullas.	The houses are ill-ventilated and somewhat crowded together, and in some places the villages are surrounded by undergrowth and low vegetation. Many of the houses have tiled roofs and are not damp. In some villages personal cleanliness is not observed. The poor keep their cattle in the sleeping-room of their houses at night. Heaps of decomposing cow-dung, sweepings and other refuse are to be seen close to almost every house or in pits and excavations, and are removed only once a year to the fields. Defecation is carried on on roadsides and fields. Carcasses are thrown on adjacent fields to rot. The dead are buried close to houses.
Daltonganj-Esrai	64,202	'12	27'75	21'74	'80	The villages being situated on elevated ground, the natural drainage is good.	Is obtained from rivers, wells, and sheels. Many of the wells are protected by pupas parapets. The water of the sheels is not good.	The villages in the north and west of this thana are kept pretty clean, cattle-dung and refuse being burnt as fuel. Most of the villages situated in the far south of this thana are close to jungles. They are in a dirty condition. Cow-dung and house-sweepings are accumulated in heaps in the front and at the back of almost every house.

Lohardugga

District.	Name of circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANITARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Brown-colour.	Drainage.	Water-supply.	
Lohardugga	Lodma (Kera)— Kural.	67,983	01	10.60	26	4.47	The natural drainage is said to be more or less free owing to the elevated position of the village sites.	Many villages have to depend entirely upon dais for their water-supply for all purposes, but a large number of them have tanks or nullas close by to wash and bathe in. In the hot weather, when some of the bandhs dry up, the water in the dais is used for all purposes.	The pathways are filthy. Cowdung is partly used as fuel and partly stored in heaps for manuring the fields. Promiscuous defecation and accumulations of cowdung and house-refuse of all sorts close to sleeping-rooms obtain in all the villages of this thana. Even in their persons the people are generally filthy.
	Chorea or Maador— Kural.	86,220	.....	21.88	55	2.31	The villages in this thana are situated on elevated ground, and consequently their natural drainage, which discharges into the adjacent fields, is good.	Is had from natural springs, rivulets, kutchas wells, and tanks, and in a few places from the river. In some villages tanks are set apart exclusively for drinking purposes. The natural springs and wells are promiscuously used, and their water is consequently impure and unfit for drinking. The river water is also considered pure.	The interior of the houses is generally in a pretty clean condition, but they are ill-ventilated. Cowdung is removed to a distance and deposited in pits, in gardens or fields. House-sweepings and rubbish are burnt at intervals. Defecation is promiscuous.
	Turra or Khunt— Kural.	104,140	006	6.53	.....	2.85	The general undulating nature of the ground on the ridges on which the villages are, as a rule, situated, help to drain them more or less completely during the rains.	Is taken from bandhs, natural springs and rivulets, which are polluted in various ways. Wells exist in some places, but they are kutchas and are used promiscuously.	The villages are generally filthy, and in some the houses are crowded together and ill-ventilated. Defecation is promiscuous, and as a rule house-refuse, ashes, &c., are heaped behind houses.
	Lohardugga—Kural	122,023	.....	10.71	19.72	1.94	The villages being situated on elevated ground, the natural drainage is free.	Is taken from tanks, the water of which is polluted in various ways.	The houses are principally built of mud and roofed with tiles a few houses belonging to the Marwaris being puces and brick-built. The sleeping-rooms are dark and ill-ventilated. Cattle are kept in sheds close to, and, in some cases, in the dwelling-houses. Cowdung is accumulated for manure, and house-sweepings and refuse straw are thrown about.
	Korambe—Kural	89,078	01	12.56	9.51	2.66	Particulars regarding the villages of this thana are not yet available.		
Bilim—Kural	Tamar—Kural	95,696	.....	6.38	.....	1.28	The sites of the villages are in the vicinity of hills and low jungles, and on a higher level than the surrounding fields of rice cultivation. During the rains water escapes into these fields.	Is obtained from bandhs and tanks, which are to be found in the neighbourhood of almost every village. Several of the bandhs and tanks are said to contain drinking water of good quality. Many, however, have their banks overgrown with weeds and low vegetation, and are liable to be polluted by surface washings.	The dwelling-houses are built of mud, and are generally thatched with straw. They are crowded together and ill-ventilated. Accumulations of cowdung and house-refuse inside the villages and promiscuous defecation are the common drawbacks to the healthiness of the people. The village bypaths are narrow, kutchas, unprovided with side-drains, and kept in a dirty and unswept condition.
	Bilim—Kural	68,355	.....	8.78	.....	1.72	Drainage is imperfect. Some of the villages are situated on high and some on low ground. Where streams exist, they drain the localities through which they pass.	Is obtained from wells which are mostly kutchas, promiscuously used, and in a dirty condition, also from tanks, streams, nullas, and natural springs. The tanks are often polluted by surface drainage, &c. The river water is polluted in various ways, and in several tanks, rivulets, and marshes jute is steeped.	The houses are damp in the rainy season. The villages are in a filthy condition, the pathways being covered with rubbish and refuse. House-refuse and cowdung heaps are to be seen close to houses. Defecation is promiscuous. The dead are cremated in adjacent fields and on banks of streams.

Basia—Batal	88,224	09	9'48	.....	3'53	The natural drainage is good, the rain water draining out completely into the fields.	In taken from natural springs which are generally polluted by surface washings during the rains. Well water is also used.	The dwelling-houses are built of mud on low plinths, and are mostly thatched with straw. The sleeping rooms are ill-ventilated, used as store-houses, and crowded at night. Accumulations of house-refuse and cattle-dung are to be seen in every village. Defecation is promiscuous.
Palkot—Batal	108,713	.....	7'00	'45	1'55	Same as in Chorea thana described above	Same as in Chorea thana described above	Same as in Chorea thana described above.
Barway—Batal	51,080	.....	9'38	'05	2'78	Particulars regarding the villages in these thanas are not available.		
Bira—Batal	68,091	.....	8'51	1'01	3'04			
Balomat—Batal	66,253	01	10'49	1'23	'36	The village sites being as a rule on elevated ground, the natural drainage is more or less free during the rains, the washings escaping into adjacent low-lying rice fields.	In obtained from natural springs and wells, and in some places from streams that flow close by. The water in the wells and natural springs is polluted in various ways. The water of the stream is also polluted by the washing of cattle and the cremation of the dead bodies on their banks.	The villages are small and consist of clusters of thatched huts erected on low plinths. There are hills and jungles in proximity to most of the villages. With a few exceptions the interior of the villages is in a filthy condition by the accumulation of decomposed cattle-dung in pits and by promiscuous defecation.
Bareound—Batal	14,667	.....	17'13	.....	4'09	Particulars regarding the villages of this thana are not available.		
Manku—Batal	46,093	13	21'38	5'00	1'19	The natural drainage is more or less free	Water-supply is bad and scanty. It is taken from wells, natural springs, and jhoras. The wells are generally used for all purposes, and their surroundings kept in a dirty condition.	The villages are remarkably filthy. Heaps of decomposing cowdung and rubbish of all sorts are to be seen close to every house.
Patan—Batal	79,635	08	20'14	6'77	'74	Same as in Chorea thana described above.	Same as in Chorea thana described above.	Same as in Chorea thana described above.
Chattarpur—Batal	36,591	.....	21'39	8'03	'24	The villages being situated on elevated ground, the natural drainage is efficient during the rains.	In obtained from pucca and kutcha wells and from natural springs, the latter being in most instances the only source of water-supply in the villages in the south. In a few villages it is taken from small streams and tanks, the latter being generally resorted to for bathing and washing purposes.	Jungle abounds in the vicinity of most of the villages in this thana, particularly in the vicinity of those on the west and south of the police-station. The villages are, with rare exceptions, kept in a filthy condition, chiefly by the accumulation of cattle dung and refuse straw.
Garwa—Batal	75,869	15	19'52	15'31	'61	The villages are situated on elevated ground, and are therefore drained efficiently during the rains.	In taken from wells and natural springs, and from the nearest rivulets.	The villages are in a more or less clean condition. The dwelling-houses are built with mud, and their roofs are mostly thatched with tea. Many of the houses are used as shops or chaities as well as dwelling-houses.
Ramkanda—Batal	64,300	.....	9'73	7'21	'65	Particulars regarding the villages in this thana are not available.		
Husenabad—Batal	102,515	05	15'11	15'75	1'53	The village sites being on elevated ground, the natural drainage is good.	In obtained from ibeels and wells. The quality of the water is generally good.	Same as in Garwa thana described above.
Chaitass—Town	6,006	.....	15'65	'49	7'32	The natural drainage is good, and it is supplemented by drains on the roadsides. Some of these drains are pucca, water-shed ones, and are in good order. The extension of the pucca surface drain is a necessity.	In obtained from tanks, wells, and the river Khar-kai. The wells are well protected from pollution, but the clearing out of the tanks and wells is necessary.	Surface cleansing is well attended to, the sweepings, &c., being utilised in the jail garden. There are only two public and two iron (Hornbury's) latrines, but these are insufficient. There are a few private privies. Defecation is carried on in fields out of town. Night-soil is properly disposed of.

Lohardugga

Singbhum

District.	Name of Circle.	Population.	RATIO OF DEATHS FROM— PER 1,000 OF POPULATION.				SANTARY ESTIMATE OF VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		Domestic cleansing.
			Small-pox.	Cholera.	Bowel-com-plaints.	Drainage.	Water-supply.		
Singbhum	Chalchasse—Zaval ...	205,683	15 01	03	74	The villages are situated on elevated ground either adjacent to rice-fields or at the foot of small hills, and their natural drainage is good.	Is taken from natural springs, bandhs, rivers, nullas and kutcha wells. The bandhs receive surface drainage during the rains; washing of clothes and cattle and steeping of jute are carried on in them, and most of them dry up in the hot season, but they as well as nullas are scarcely used for drinking purposes.	The dwelling-houses are erected under large tamarind, peepal, and plum trees, which have been planted for useful purposes, and which form a prominent feature of a Kol village. These houses are generally small huts on low plinths walled with mud and thatched roofed. Excepting the small entrance door, the sleeping rooms have no other openings for ventilation, and are very dark.	
	Chuckerthar p u r—Zaval.	76,408	7 77	17	1 80	The villages being situated on high ground surrounded by low cultivated fields, the natural drainage is free.	Is taken from tanks, bandhs, and rivers. The tanks and bandhs are polluted by surface drainage and in various other ways.	The dwelling-houses are constructed of mud walls and thatched roofs, without any means of ventilation. House sweepings and refuse straw are scattered all about the compounds of houses. Defecation is promiscuous	
	Ghatalla—Zaval ...	153,709	15 03	09	1 24	Same as in Chuckertharput thana described above.	Same as in Chuckertharput thana described above.	Same as in Chuckertharput thana described above.	
	Serikela—Zaval ...	77,062	11 35	1 40	3 10	The natural drainage appears to be free, the surface water finding its way into the adjacent bandhs and small streams.	Is principally obtained from bandhs, which are polluted by surface drainage and in various other ways. In the hot weather, however, when most of the bandhs dry up, the people obtain their supply of water from natural springs and hill torrents.	The dwelling-houses are constructed of mud walls and thatched roofs, without any means of ventilation, and the sleeping rooms are overcrowded at night. House-sweepings and refuse straw are scattered all about the compounds of houses.	
	Kharwan—Zaval	31,127	3 79	28	2 02	The natural drainage is good	Is taken from bandhs and a tributary of the river Langai. The quality of the water is not good, as it is polluted in various ways.	The houses are more huts thatched with straw and insufficiently ventilated, and their floors are kutcha and low, but they are not damp owing to the drainage being free. No sewerage arrangements exist. The people resort to the riverside and jungles for defecation. Cow-dung and all sorts of refuse are collected in heaps near the dwelling-houses.	
Masbhum	Purulia—Town ...	9,304	12 88	10	2 79	The natural drainage is good. The municipal drains with their branches discharge into the rivulet to the east and north of the town. The drains are kutcha, but most of them have stone floors. They are kept clean and in efficient working order.	Is chiefly obtained from the Sababganj lake, the water of which is good and sufficient, but the lake requires deepening in some parts. Bathing is carried on in five large tanks, and well water is used for culinary and other domestic purposes. The latter, however, is also drunk to some extent.	Surface-cleaning is well attended to. Sweepings and rubbish are removed to places set apart for the purpose far from habitations. There are four public latrines. The private privies are not under municipal management. The night-soil is trampled away from habitations. Cow-dung is met with in the compounds of houses. The latrines which exist are in a bad condition. The arrangements for the disposal of the dead are good.	
	Purulia—Zaval ...	177,487	13 67	065	27	The villages being situated on elevated ground, the natural drainage is more or less free.	Is taken from rivers, bandhs and jhows. There are many good bandhs in this thana, but, as a rule, their sides are not sufficiently raised, hence the water is polluted during the rains by surface drainage finding its way into it.	The dwelling-houses are made of mud walls and thatched roofs. Their plinths are very low, and they are without ventilation. The houses and their surroundings are very dirty owing to refuse and cow-dung being scattered every where. Defecation is promiscuous.	
	Jaipur—Zaval ...	21,268	12 88	12	2 43	The natural drainage is good owing to the villages being situated on high ground.	There are many good bandhs which supply water, but as their sides are not well raised, the water is liable to pollution during the rains by surface drainage.	Same as in Purulia thana described above.	

Jhalka—Towns	4,391	1870	.....	'91	The natural drainage is not good. On the west of the town there is a hill called Kali-sargi, from which during the rains water flows into this town, inundates some parts of it, and collects in the roadside drains from which there is no outlet.	There are ten tanks in the town and many wells, only two of which, however, are pucca. A small river, called Saldaho, also flows close by on the east and south. Some of the tanks receive surface drainage, but tank water is chiefly used for cooking and washing purposes only. The water of the wells is reputed to be of good quality, but, with a few exceptions, it is rendered impure by promiscuous use.	The dwelling-houses are for the most part mud-walled, but there are a few pucca buildings. The people who have immigrated into the town have privies of their own which are, however, never cleaned. The rest of the people defecate anywhere and everywhere. Cowdung is in some villages stored in heaps for manure in others it is burnt.
Jhalka—Rural	62,743	1241	.....	'84	The natural drainage is good owing to the village sites being on elevated ground.	Is taken from bandhs, nullas, rivers, and wells. There are good wells in this thana, the sides of which are well protected from surface drainage.	The houses and their surroundings are very unclean owing to the accumulation of cowdung and other refuse. People resort to the field for defecation. No conservancy arrangements exist.
Bagnundi—Rural	53,381	1493	.....	1891	The villages being situated on high ground, the natural drainage is more or less free.	Is taken from rivulets, bandhs and wells. There are very few good wells or bandhs, and it is a pity their sides are not protected from surface drainage.	The houses are made of mud walls and thatched roofs. Ventilation is imperfect. Many pits and excavations filled with all sorts of refuse are to be seen in this thana. Cowdung is heaped near the dwellings. No conservancy arrangements exist. Defecation is promiscuous.
Ichagar—Rural	64,242	1192	'01	1891	The natural drainage is good, owing to the position of the villages being on high ground.	Is taken from rivulets and bandhs	Same as in Purulia thana described above.
Barabhum—Rural	153,547	1098	.....	'83	The natural drainage is good	Is taken from bandhs, of which there are many good ones in this thana.	Same as in Purulia thana described above.
Manbazar—Rural	68,615	1203	.....	1879	The natural drainage is good	Is taken from rivulets and bandhs, of which there are a good many in this thana.	The dwellings are low-floored huts, and are very dirty.
Raghunathpur—Rural	106,063	1222	.....	'35	The natural drainage is good, owing to the village sites being on elevated ground.	Is chiefly taken from bandhs and streams	Houses are, as a rule, made of mud walls and thatched roofs. They are without ventilation. In some villages the people sleep at night together with cattle, goats, and domestic birds. Defecation is promiscuous.
Gourandi—Rural	45,773	1816	.....	'09	Same as in Raghunathpur thana described above.	Same as in Raghunathpur thana described above.	Same as in Raghunathpur thana described above.
Para—Rural	39,740	1623	.....	1853			
Chas—Rural	97,173	1103	'01	'09			
Gorindpur—Rural	39,673	1797	.....	'78			
Tundi—Rural	18,417	3241	.....	'16			
Jharis—Rural	39,854	1854	.....	'82			
Niraha—Rural	50,837	1029	'08	1873			
Topchanchi—Rural	43,013	1970	.....	'06			
					The natural drainage is good, owing to the elevated position of the villages which are surrounded by low-lying fields.	Water-supply in villages, especially those situated on the sides of the Grand Trunk Road, is insufficient. People generally obtain water from hill-streams which is remarkably unhealthy.	Same as in Purulia thana described above

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 30th May 1888.

R. LIDDERDALE, M. D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

APPENDIX No. VII.

**STATEMENTS EXHIBITING PARTICULARS REGARDING THE VACCINE
OPERATIONS OF THE YEAR 1887-88 AND OTHER INFORMATION
CONNECTED THEREWITH.**

STATEMENT No. I.—Showing particulars of Vaccination in each

Number.	CIRCLES AND DISTRICTS.	POPULATION.	Average population per square mile.	Average number of vaccinators employed throughout the season.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION					
					Males.	Females.	Total.		Total.			Success		
									Males.	Females.	Total.	Under one year.	One year and under 6.	
1	2	3	4	5	6			7	8			9	10	
Calcutta Circle of Superintendence.														
1	Calcutta	438,219	54,152	19	6,016	4,838	10,854	571	5,818	4,591	9,809	4,200	5,610	
Metropolitan Circle of Superintendence.														
1	Burdwan	1,251,587	489	39	16,187	15,314	31,351	804	16,186	15,311	31,347	3,591	2,790	
2	Bankura	899,198	379	46	12,485	12,169	24,654	536	12,478	12,166	24,638	1,601	18,231	
3	Birbhum	786,590	448	28	10,509	10,283	20,772	742	10,509	10,283	20,772	2,394	14,102	
4	Midnapore	2,433,662	481	86	30,777	28,772	59,549	693	30,769	28,771	59,540	2,468	37,343	
5	Hughli (including Serampore)	881,164	742	34	13,350	12,747	26,297	773	13,340	12,744	26,284	3,036	19,849	
6	Howrah	529,783	1,136	17	7,710	7,647	15,357	903	7,710	7,647	15,357	2,261	11,878	
7	24-Pergunnahs	1,351,939	683	59	21,144	19,601	40,805	681	21,140	19,600	40,800	5,730	30,389	
8	Nuddoa	1,545,291	567	50	20,467	10,090	39,568	791	20,467	19,909	39,566	5,321	30,850	
9	Jessore	1,921,649	680	50	27,013	25,034	52,047	940	26,998	25,015	52,011	4,998	40,875	
10	Khulna	1,059,518	515	37	20,878	20,165	41,043	1,109	20,878	20,165	41,043	4,534	26,978	
11	Murshedabad	1,141,187	640	44	20,388	19,583	39,971	908	20,375	19,578	39,954	6,225	28,538	
	Total	13,891,576	547	498	201,085	190,954	392,012	790	200,992	190,920	391,912	48,845	281,514	
12	Calcutta (Bovine Vaccination Department).	251,439	10,932	3	545	72	617	308	55	54	109	41	40	
13	Suburbs of Calcutta			12	6,463	5,080	11,543	962	4,587	4,067	8,654	3,140	4,338	
	TOTAL OF METROPOLITAN CIRCLES	14,143,015	557	510	208,088	196,106	404,172	792	205,634	195,041	400,675	52,026	286,892	
Darjeeling Circle of Superintendence.														
1	Dinajpur	1,561,788	365	61	16,619	15,792	32,611	534	16,619	15,793	32,611	6,860	23,842	
2	Malda	868,624	367	40	13,019	12,236	25,255	631	13,019	12,236	25,255	8,339	10,584	
3	Rajshahye	1,909,763	557	58	21,163	19,503	40,666	701	21,140	19,493	40,633	9,084	20,841	
4	Rungpur	2,084,644	559	57	19,808	18,676	38,484	675	19,808	18,676	38,484	4,466	32,071	
5	Bozra	724,312	484	32	11,164	11,010	22,174	693	11,164	11,010	22,174	4,046	17,605	
6	Pubna	1,275,424	693	58	18,640	15,437	34,077	587	18,640	15,437	34,077	5,136	26,072	
7	Fulpaiguri	573,615	199	30	10,899	9,253	19,952	511	10,899	9,253	19,952	7,727	11,582	
8	Furneah	1,833,671	373	52	25,008	22,709	47,807	919	25,005	22,709	47,804	10,909	35,900	
9	Darjeeling { By paid agency	144,191	118	5	6,448	5,994	12,442	2,488	6,448	5,994	12,442	3,137	4,777	
	{ By licensed ditto				806	638	1,444	722	806	638	1,444	1,038		
	Total ... { By paid agency	10,140,620	419	5	6,448	5,994	12,442	2,488	6,448	5,994	12,442	3,137	4,777	
	{ By licensed ditto			264	137,126	125,344	262,470	606	137,100	125,334	262,434	57,535	194,466	
	TOTAL OF DARJEELING CIRCLE			399	143,574	131,338	274,912	689	143,548	131,328	274,870	60,672	198,763	
Ranchi Circle of Superintendence.														
1	Manbhum	1,048,024	253	32	15,046	13,643	28,689	896	15,046	13,643	28,689	6,686	20,527	
2	Singbhum	555,058	128	11	6,724	6,161	12,885	1,171	6,724	6,161	12,885	3,166	7,593	
3	Hazaribagh	1,089,430	155	63	14,031	14,080	28,711	455	14,023	14,080	28,703	7,978	19,656	
4	Lohardugga	1,576,134	132	54	22,086	20,760	42,846	793	22,080	20,760	42,840	19,612	31,733	
5	Political States of Jashpur, Gangpur, Korea, Sirgaja, Udaipur, Changbunka.	545,783	88	43	16,597	15,002	31,659	736	16,597	15,002	31,659	8,603	80,081	
	TOTAL OF RANCHI CIRCLE	4,810,235	154	203	75,084	69,700	144,790	713	75,076	69,700	144,782	45,446	80,530	
Sonthal Pergunnahs Circle of Superintendence.														
1	Sonthal Pergunnahs	1,547,669	263	78	21,569	20,659	42,168	540	21,431	20,617	42,048	7,948	32,196	
2	Bhagulpore	1,904,633	447	54	17,890	16,395	34,103	620	17,798	16,392	34,100	5,978	22,752	
3	Monghyr	1,864,021	432	127	16,922	15,671	32,793	258	16,921	15,671	32,792	2,860	24,000	
	TOTAL OF SONTHAL PERGUNNAHS CIRCLE	5,316,323	391	259	56,381	52,833	109,064	421	56,150	52,790	108,940	14,184	99,912	
Eastern Bengal Circle of Superintendence.														
1	Mymensing	3,091,854	478	120	36,468	23,188	69,656	580	36,468	23,188	69,656	6,238	24,000	
2	Faridpur	1,000,521	711	84	17,369	17,123	34,492	410	17,364	17,123	34,487	3,411	22,222	
3	Noakhally	773,917	494	47	7,288	6,531	13,819	294	7,288	6,531	13,819	1,528	10,376	
4	Dacca { By paid agency	2,023,628	725	83	136	116	252	.....	136	116	252	24	191
	{ By licensed ditto				27,726	26,586	54,312	654	27,726	26,586	54,312	5,023	39,870	
5	Tipperah	1,488,289	601	70	27,539	26,589	54,168	777	27,539	26,589	54,168	7,422	39,058	
6	Backergunj { By paid agency	1,981,764	517	97	152,900	138,073	290,973	2,999	152,900	138,073	290,973	18,819	128,651	
	{ By licensed ditto				11,675	10,855	22,530	1,468	11,675	10,855	22,530	1,028	9,619	
	TOTAL ... { By paid agency	10,759,978	578	97	153,034	138,189	291,225	3,003	153,036	138,189	291,225	18,848	128,842	
	{ By licensed ditto			418	128,392	120,852	249,244	506	128,390	120,852	249,242	6,058	108,788	
	TOTAL OF EASTERN BENGAL CIRCLE			615	281,498	259,041	540,499	1,049	281,436	259,041	540,467	46,531	298,680	

Circle of Superintendence during the year 1887-88.

Inl.		RE-VACCINATION.						PERCENTAGE OF SUCCESSFUL CASES.		RELIGION OF THE NUMBER VACCINATED.				Persons successfully vaccinated per 1,000 of population.	AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING THE PREVIOUS FIVE YEARS.		AVERAGE NUMBER OF DEATHS FROM SMALL-POX DURING THE PREVIOUS FIVE YEARS.		
		Total.			Successful.					Total numbers vaccinated of—					Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.	
		Males.	Females.	Total.	Under 1 year.	1 year and under 6.	Above 6 years.	TOTAL OF ALL AGES.	Primary.	Re-vaccination.	Hindus.	Mahomedans.	Christians.						Other races.
11	12	13		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
443	8,259	798	247	1,045	...	...	132	132	93'60	14'84	7,510	2,630	632	62	18'13	10,047	23'10	147	'83
4,941	31,322	1	3	4	...	...	...	...	98'96	27,043	5,931	2	475	25'02	...	...	91	'07	
4,756	24,588	13	8	16	...	...	9	9	99'79	50'25	33,592	1,062	...	24'80	...	...	25	'02	
4,384	20,740	...	...	...	...	...	...	...	99'79	...	16,112	3,510	3	1,147	26'35	...	12	'01	
12,545	68,354	8	1	9	...	...	...	...	99'71	50'71	2,998	40	...	24'38	...	...	179	'07	
3,574	26,259	10	3	13	...	...	11	11	90'90	84'61	21,474	4,828	...	20'81	...	...	22	'02	
1,514	15,347	...	...	...	...	...	...	...	100'93	...	12,366	1,962	9	28'97	...	...	14	'02	
4,562	40,681	4	1	5	1	3	...	4	99'83	80'00	25,440	15,206	158	21'00	...	...	24	'02	
3,242	39,413	...	...	...	...	...	...	...	99'77	...	14,906	24,454	206	25'50	...	...	72	'04	
4,671	52,432	17	19	36	...	4	9	13	99'67	36'11	20,807	31,826	14	27'29	...	...	27	'01	
9,851	40,966	...	...	...	...	...	...	...	99'82	...	17,108	23,920	20	30'66	...	...	6	'005	
5,089	39,570	13	4	17	...	...	3	3	99'85	17'84	17,139	22,531	1	34'94	...	...	07	'08	
60,612	390,671	66	34	100	...	5	35	40	99'80	40'00	252,513	137,517	453	1,529	23'14	359,181	25'85	577	'04
1	82	490	18	508	...	1	155	156	94'25	40'31	137	174	298	8	'94	612	2'43	78	'03
614	8,092	1,676	1,013	2,839	...	18	936	954	97'51	44'39	7,925	3,434	184	...	35'97	11,181	44'46	...	'03
61,227	399,145	2,432	1,065	3,497	...	24	1,126	1,150	99'75	43'62	260,575	141,125	935	1,537	28'30	370,974	26'22	636	'04
1,901	32,603	...	...	...	...	...	...	...	90'29	...	15,121	16,530	31	929	21'61	...	...	27	'01
331	35,254	...	...	...	...	...	...	...	99'99	...	12,131	15,030	1	93	36'42	...	...	15	'02
1,631	40,550	23	10	33	...	1	28	29	99'03	80'03	33,425	...	457	30'98	...	...	12	'009	
1,878	38,445	...	...	...	...	...	...	...	99'99	...	12,771	25,233	...	490	18'44	...	...	5	'002
519	22,170	...	...	...	...	...	...	...	90'98	...	3,940	18,234	...	...	30'61	...	...	6	'008
2,130	33,937	...	...	...	...	...	...	...	90'80	...	7,305	26,772	...	...	26'60	...	...	5	'003
1,558	19,477	...	...	...	...	...	...	...	99'95	...	11,572	6,249	2	2,129	31'63	...	...	4	'006
984	47,703	3	...	3	...	...	...	...	99'04	...	27,250	18,882	...	1,675	26'08	...	...	24	'01
538	11,053	...	...	...	...	...	...	...	99'04	...	12,173	5	11	263	80'90	...	...	...	'09
40	1,443	...	...	...	...	...	...	100	...	...	1,211	59	5	171	79'26	...	...	13	'09
4,238	11,652	...	...	...	...	...	...	...	90'84	...	12,173	5	11	253	80'90	25,907	2'56	...	...
10,067	262,078	26	10	36	...	1	28	29	99'96	82'86	98,086	158,404	37	8,944	25'04	227,192	22'40	...	...
14,325	273,730	26	10	36	...	1	28	29	99'96	82'86	110,258	168,409	48	6,197	26'09	253,180	24'06	110	'01
695	27,848	...	...	...	...	...	...	...	97'08	...	27,922	1,040	27	...	26'56	...	...	16	'01
1,535	12,284	...	...	...	...	...	...	...	95'40	...	12,742	45	97	...	22'09	...	...	39	'05
678	29,610	8	...	8	...	...	4	4	99'71	80'00	26,388	2,307	10	...	26'26	...	...	311	'19
912	42,247	...	...	...	...	...	...	...	98'80	...	40,681	1,107	1,078	...	26'80	...	...	140	'09
2,656	30,069	...	...	...	...	...	...	...	97'05	...	31,550	68	31	...	56'17	...	...	...	...
6,693	141,058	8	...	8	...	...	4	4	97'84	80'00	138,964	4,567	1,250	...	29'41	By paid 20,897 By licensed 104,544 134,442	6'21 21'70 27'91	406	'08
1,831	41,973	79	42	120	...	6	100	115	99'82	96'83	10,720	3,400	121	21,867	27'19	...	...	108	'06
1,801	33,973	2	1	3	...	...	...	...	99'68	...	30,906	2,897	1	708	17'85	...	...	321	'16
650	32,732	1	...	1	...	...	1	1	99'82	100	29,960	2,297	19	837	17'37	...	...	350	'18
3,588	108,678	81	43	124	...	6	110	116	99'77	83'04	77,668	8,144	141	33,113	20'39	By paid 57,006 By licensed 66,660 123,666	10'48 12'55 23'24	780	'14
13,776	69,008	...	...	...	...	...	...	...	99'95	...	17,428	60,670	5	1,685	23'26	...	...	281	'08
8,648	34,819	2	...	2	...	...	2	2	99'83	100	15,246	18,871	58	314	31'44	...	...	65	'04
1,902	13,805	...	...	...	...	...	...	...	99'99	...	5,165	8,339	16	...	17'53	...	...	233	'30
36	851	...	...	...	...	...	...	...	99'00	...	131	120	1	...	'12	...	...	...	...
9,189	54,089	...	...	...	...	...	...	...	94'53	...	19,087	35,786	608	221	26'72	...	...	151	'07
7,519	54,403	...	...	...	...	...	...	...	99'59	...	14,480	39,020	8	...	36'55	...	...	102	'06
101,477	290,947	...	...	...	...	...	...	...	99'59	...	67,728	220,159	9	3,077	16'41	...	...	...	'76
11,548	22,529	...	...	...	...	...	...	...	99'04	...	10,981	11,485	53	31	12'30	...	...	...	'04
151,513	291,196	...	...	...	...	...	...	...	99'99	...	67,859	220,379	10	3,077	27'06	149,700	13'91	...	...
55,376	248,732	2	...	2	...	...	2	2	99'96	100	83,495	162,981	727	2,251	23'11	182,380	16'96	...	...
206,789	639,980	2	...	2	...	...	2	2	99'93	100	161,144	373,230	737	5,345	50'18	332,080	30'86	917	'08

STATEMENT No. I.—Showing particulars of Vaccination in each

Number.	CIRCLES AND DISTRICTS.	POPULATION.	Average population per square mile.	Average number of vaccinators employed throughout the season.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION.					
									Total.		Success.			
					Males.	Females.	Total.		Males.	Females.	Total.	Under 1 year.	1 year and under 2.	
1	2	3	4	5	6			7	8			9	10	
Orissa Circle of Superintendence.														
1	Cuttack ... { By paid agency } ...	1,724,800	477	3	687	444	1,131	877	687	444	1,131	43	928	
	... { By licensed ditto } ...			60	12,733	11,433	24,166	404	12,733	11,433	24,166	1,310	20,517	
2	Puri ... { By paid ditto } ...	864,195	340	25	33,207	20,389	53,596	1,744	33,207	20,389	53,596	1,520	36,883	
	... { By licensed ditto } ...			12	1,046	577	2,023	168	1,046	577	2,023		1,023	
3	Tributary States of Angul, Dhenkanal, Bispaura, Narsingpur, Barhamba ...	672,574	130	7	6,645	5,585	12,210	1,744	6,627	5,549	12,176	87	9,044	
	Dhenkanal State ... By licensed agency			4	987	857	1,844	461	987	857	1,844	70	1,041	
	Total ... { By paid agency } ...	2,961,065	838	85	30,509	23,398	53,907	1,623	30,531	23,382	53,913	2,471	46,935	
	... { By licensed ditto } ...			76	14,766	13,280	28,046	308	14,766	13,280	28,046	1,837	23,146	
	TOTAL OF ORISSA CIRCLE ...			111	45,365	36,678	82,053	706	45,347	36,662	82,009	3,308	70,101	
Behar Circle of Superintendence.														
					During recess									
1	Patna ... { By paid agency } ...	1,594,038	741	88	214	206	420	214	214	206	420	44	321	
	... { By licensed ditto } ...			88	10,327	10,188	20,515	532	10,427	10,165	20,592	1,608	17,417	
2	Shahabad ... { By ditto ditto } ...	1,845,827	424	35	11,408	10,208	21,704	620	11,497	10,308	21,705	2,432	15,006	
3	Gya ... { By paid ditto } ...	1,309,043	684	62	18,280	13,706	27,986	446	13,061	13,078	27,939	2,296	31,671	
	Total ... { By paid ditto } ...	4,748,908	536	62	14,203	13,912	28,115	653	14,175	13,884	28,059	2,340	31,992	
	... { By licensed ditto } ...			73	21,925	20,364	42,289	579	21,924	20,361	42,285	4,070	32,423	
	TOTAL OF BEHAR CIRCLE ...			135	36,128	34,276	70,404	621	36,099	34,245	70,344	6,410	64,415	
	GRAND TOTAL OF ... { By paid agency } ...	53,529,256	305	232	217,336	194,483	411,793	1,775	214,100	193,161	407,261	31,172	205,000	
	... { By licensed ditto } ...			1,919	634,682	503,819	1,227,901	639	634,398	503,229	1,227,427	100,104	880,769	
	Total ...			2,151	851,992	787,802	1,639,694	762	848,498	786,390	1,634,688	227,276	1,085,829	

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 10th May 1888.

STATEMENT No. II.—Showing the cost of vaccination in each

CIRCLES.	ESTABLISHMENT.															EXPENSE.	
	Superintendents.	Deputy Superintendents.	Native Superintendents.	Inspectors.	Total.	Head-vaccinators.	First class vaccinators.	Total.	Second and third class vaccinators.	Apprentices.	Total.	Clerks.	Menial servants.	Total.	Pay of establishment.	Travelling allowances.	
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
																Rs. A. P.	Rs. A. P.
Calcutta	1	1	1	...	3	3	5	8	14	...	14	1	1	2	6,138	10 3	600 0 0
Metropolitan Circle	1	4	...	39	44	...	...	...	...	...	...	3	6	9	81,804	0 0	11,117 4 0
Bovine Vaccination Department ... ..	...	...	...	1	1	...	...	...	...	...	...	2	1	3	1,676	13 5	283 3 0
Suburbs of Calcutta ... ..	...	1	...	...	1	...	...	7	7	...	7	...	4	4	3,371	9 4	528 7 0
TOTAL OF METROPOLITAN CIRCLES ...	1	6	...	40	46	2	5	7	9	...	9	4	17	21	86,880	6 8	11,908 15 8
Darjeeling Circle	1	2	...	12	15	1	5	6	...	...	...	1	4	5	14,691	15 0	4,744 10 6
Ranchi	1	2	1	10	14	...	...	...	...	...	...	1	3	4	10,310	15 1	1,415 16 6
Northal Pergunnahs	1	...	...	10	11	3	6	9	12	...	...	12	1	2	5,895	26 0	3,094 4 4
Eastern Bengal	1	1	1	7	10	...	...	12	63	23	91	2	3	5	15,350	11 6	5,223 5 0
Orissa	1	...	...	8	8	3	9	12	24	3	28	1	3	3	6,196	1 7	1,500 0 0
Behar	1	1	...	6	8	5	13	18	39	10	49	1	1	2	10,791	14 1	2,978 0 0
TOTAL OF VACCINATION CIRCLES ...	8	12	3	68	111	23	40	73	181	40	201	12	33	45	1,08,698	9 3	31,961 13 7
Municipalities ... ..	...	...	...	...	...	...	...	...	223	...	223	...	...	...	13,437	5 7	.....
GRAND TOTAL	8	12	3	68	111	23	40	73	384	40	424	12	33	45	1,10,103	14 10	31,961 13 7

NOTE.—The Government staff of vaccinators was entertained for three months only during the recess (i.e. from April 1887 to June 1887).

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 10th May 1888.

Circle of Superintendence during the year 1887-88—concluded.

Tal.	RE-VACCINATION.								PERCENTAGE OF SUCCESSFUL CASES.		RELIGION OF THE NUMBER VACCINATED.				Persons successfully vaccinated per 1,000 of population.	AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING THE PREVIOUS FIVE YEARS.		AVERAGE NUMBER OF DEATHS FROM SMALL-POX DURING THE PREVIOUS FIVE YEARS.		
	Total.				Successful.						Total number vaccinated of—					Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.	
	Above 6 years.	TOTAL OF ALL AGES.	Males.	Females.	Total.	Under 1 year.	1 year and under 6.	Above 6 years.	TOTAL OF ALL AGES.	Primary.	Re-vaccination.	Hindus.	Mahomedans.	Christians.	Other races.					Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
11	12	13			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
69	1,040	.....	.....	.....	.....	.....	.....	.....	91'85	.....	.....	1,006	45	20	.....	60	.....	.....	.....
1,231	22,848	94'98	23,481	616	36	13'30	590	34
3,440	41,983	96'39	42,830	464	239	80	48'58	253	39
201	1,846	91'25	1,951	28	20	24	2'13
1,226	11,178	18	16	34	.....	.....	5	5	91'80	14'70	10,084	16	.....	1,280	30'02	.....	.....	Not under registra-	
320	1,431	.....	.....	.....	.....	.....	.....	.....	78'14	.....	1,399	.....	.....	445	.....	.....	.....	.....	.....
4,775	54,201	18	16	34	.....	.....	5	5	95'38	14'70	54,830	559	259	1,340	18'30	47,936	16'18	.....	.....
1,742	26,225	.....	.....	.....	.....	.....	.....	.....	83'55	.....	26,831	644	56	601	8'35	3,223	1'09	.....	.....
6,517	80,428	18	16	34	.....	.....	5	5	94'77	14'70	81,661	1,203	315	1,550	27'16	51,159	17'27	844	28
3	367	.....	.....	.....	.....	.....	.....	.....	87'38	.....	.....	369	50	1	.....	24	.....	.....	.....
1,263	20,288	.....	3	5	2	.....	1	3	98'74	100	18,341	2,076	.....	168	18'31	.....	.....	486	31
3,706	21,174	1	.....	1	1	.....	.....	9	94'56	100	20,458	1,227	.....	19	11'47	.....	.....	174	09
3,030	26,907	28	28	56	3	.....	.....	12	97'67	21'42	24,114	3,547	4	30	12'41	.....	.....	33	02
3,052	27,304	28	28	56	3	9	12	98'42	21'42	24,483	3,597	5	.....	30	5'77	30,221	4'37	.....	.....
4,969	41,402	1	3	4	3	1	4	98'54	100	38,799	3,303	.....	.....	187	8'74	13,084	2'95	.....	.....
6,001	68,824	29	31	60	6	10	16	98'50	28'66	63,282	6,900	5	.....	217	14'52	44,208	9'22	693	14
161,616	400,848	3,210	1,322	4,532	23	1,237	1,259	98'71	34'82	174,917	230,078	1,399	4,799	7'50	303,599	4'80	.....	.....	.....
143,951	1,219,824	184	90	274	16	180	195	94'76	76'04	706,143	475,500	2,673	43,525	22'87	957,447	17'95	.....	.....	.....
307,807	1,620,672	3,394	1,412	4,806	37	1,417	1,454	99'33	37'38	881,050	706,238	4,072	48,324	30'41	1,320,097	24'75	4,731	08	.....

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

Circle of Superintendence during the year 1887-88.

DITUR.		PAID FROM—							Number of successful operations.	Average cost of each successful case.
Contingencies.	TOTAL COST.	Imperial Fund.	Provincial Fund.	Local Fund.	Municipalities.	Native States.	TOTAL.			
19	20	21	22	23	24	25	26	27	28	
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	
1,789 0 6	8,527 10 9	.....	.....	.....	8,527 10 9	.....	8,527 10 9	8,591	1 0 8
490 10 9	43,379 15 3	.....	43,379 15 3	.....	.....	.....	43,379 15 3	3,91,011	0 1 9
1,892 10 9	3,272 11 9	.....	3,272 11 9	.....	.....	.....	3,272 11 9	248	0 14 2
1,078 0 0	4,971 0 6	.....	1,842 9 3	.....	3,128 7 3	.....	4,971 0 6	9,046	
2,806 5 6	51,623 11 6	.....	48,495 4 3	.....	3,128 7 3	.....	51,623 11 6	4,00,395	0 2 0
630 0 0	20,068 9 6	.....	20,068 9 6	.....	.....	.....	20,068 9 6	2,75,759	0 1 2
150 0 0	11,876 9 7	.....	11,188 1 7	.....	.....	708 8 0	11,876 9 7	1,41,662	0 1 4
280 9 6	9,820 12 10	.....	0,820 12 10	.....	.....	.....	9,820 12 10	1,08,794	0 1 5
248 12 6	21,356 13 0	.....	21,356 13 0	.....	.....	.....	21,356 13 0	5,39,952	0 0 7
315 0 0	7,881 4 7	.....	7,437 6 10	.....	.....	443 10 9	7,881 4 7	30,431	0 1 6
65 16 9	13,755 13 10	.....	13,755 13 10	.....	.....	.....	13,755 13 10	68,842	0 3 2
6,280 11 9	1,44,909 2 7	.....	1,32,100 13 10	.....	11,856 2 0	1,152 2 9	1,44,909 2 7	16,22,126	0 1 5
.....	12,437 5 7	.....	.....	120 0 0	11,998 14 7	318 7 0	12,437 5 7	73,232	0 2 9
6,280 11 9	1,57,346 8 2	.....	1,32,100 13 10	120 0 0	23,658 0 7	1,470 9 9	1,57,346 8 2	16,95,348	0 1 6

The staff of Government vaccinators has been abolished by Government order No. 139T.M., dated 21st June 1937.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

STATEMENT No. III.—Showing particulars of Vaccination performed by Vaccinators attached

DISTRICTS.	Number of municipalities, dispensaries, &c., in the district to which vaccinators were attached.	Number of vaccinators attached to the municipalities, dispensaries, &c., in the district during the season.	TOTAL NUMBER OF PERSONS VACCINATED.			Total number of persons vaccinated in 1886-87.	Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION.						
			Males.	Females.	Total.			Total.			Successful.			
								Males.	Females.	Total.	Under one year.	One and under six years.	Above six years.	Total of all ages.
Burdwan	6	5	1,624	1,201	2,825	3,206	565	1,594	1,189	2,783	634	1,529	568	2,731
Bankura	3	3	867	759	1,626	1,687	548	630	739	1,569	152	1,145	248	1,545
Birbhum	1	1	65	48	131	128	131	65	66	131	33	74	14	121
Midnapore	6	6	1,351	1,078	2,429	1,658	388	1,219	1,054	2,273	339	1,453	321	2,118
Hughli and Sorampore	3	3	1,578	1,348	2,926	2,784	358	1,354	1,337	2,691	401	1,943	669	3,013
Howrah	2	5	1,379	1,375	2,754	4,098	591	1,533	1,356	2,909	738	1,984	157	2,877
24-Pargunnahs	17	20	3,480	2,790	6,270	6,520	314	3,405	2,700	6,105	1,106	3,799	1,155	6,090
Nudda	9	9	1,076	900	1,976	2,551	280	1,051	801	1,852	174	1,259	444	1,885
Jessore	4	3	534	493	1,027	333	333	530	459	989	63	637	271	971
Khulna	3	3	341	310	651	761	217	341	310	651	44	618	85	650
Murshidabad	4	6	1,854	1,374	3,228	3,153	558	1,723	1,308	3,031	231	1,922	587	2,900
Dinajpur	1	1	374	243	618	225	225	363	245	608	51	591	154	696
Rajshahye	2	2	603	497	1,100	871	550	553	467	1,020	373	532	53	686
Runkpur	2	2	600	379	979	497	182	503	334	837	107	398	264	763
Sogra	2	2	205	177	382	347	93	205	173	378	66	281	13	390
Pubna	2	2	441	373	814	610	407	439	373	812	153	549	71	773
Darjiling	2	2	1,016	721	1,737	1,194	369	1,010	719	1,735	725	571	397	1,093
Jalpaiguri	1	1	101	99	200	227	200	101	99	200	107	84	9	200
Dacca	2	2	1,450	1,110	2,560	2,803	643	1,410	1,093	2,503	436	1,430	510	2,396
Faridpur	3	3	616	558	1,174	1,420	391	614	537	1,151	50	590	506	1,155
Backergunij	4	4	692	320	1,012	603	229	688	328	1,016	17	171	668	854
Mymensingh	13	9	748	636	1,384	1,581	154	733	631	1,363	63	787	444	1,295
Tippurah	2	2	602	637	1,239	1,492	650	637	631	1,268	267	806	90	1,163
Chittagong	1	3	337	325	662	347	221	337	325	662	80	405	112	547
Noakhali	2	2	93	66	159	117	80	93	66	159	7	97	46	150
Patna	4	19	2,945	2,064	5,009	6,568	264	2,929	2,043	4,973	1,127	2,941	294	4,332
Gya	2	4	636	840	1,476	1,885	431	830	846	1,676	43	1,358	170	1,571
Mahabud	7	6	2,158	1,606	3,764	3,971	482	2,154	1,687	3,841	251	2,701	471	3,423
Mozufferpore	4	7	1,253	992	2,245	2,494	521	1,243	987	2,230	295	1,538	91	1,914
Durhhunga	6	6	3,087	2,554	5,641	6,182	703	3,059	2,532	5,591	1,189	3,438	49	4,686
Karun	6	11	1,703	1,475	3,178	3,794	397	1,791	1,475	3,266	414	2,509	247	3,030
Chumpanun	4	7	1,245	1,130	2,375	3,329	359	1,234	1,121	2,355	66	1,555	486	2,111
Monghyr	3	7	2,640	2,393	5,033	6,807	719	2,608	2,377	4,985	1,429	3,390	127	4,916
Bhagulpore	2	4	688	647	1,335	1,787	329	643	632	1,275	233	760	131	1,174
Purneah	2	2	270	235	505	357	260	272	232	504	85	399	10	497
Maldah	2	2	324	292	616	790	293	324	291	615	50	563	99	660
Nonthal Pargunnahs	4	6	400	357	757	781	120	393	353	746	211	515	17	741
Cuttack	9	11	1,554	929	2,483	3,190	226	1,318	886	2,204	95	1,484	234	1,813
Puri	1	2	343	241	584	360	292	343	241	584	42	317	240	499
Balasore	2	2	327	468	795	1,044	522	495	473	968	29	728	59	816
Hazaribagh	2	2	498	491	989	1,074	490	493	491	986	161	699	53	913
Lohardugga	1	1	405	380	785	699	675	495	380	875	235	412	155	802
Singbhum	1	1	157	152	309	197	309	157	152	309	102	180	15	297
Manbhum	3	3	125	151	276	454	92	124	149	273	42	215	9	286
GRAND TOTAL	166	223	43,770	35,191	78,961	88,101	354	42,690	34,710	77,400	12,508	48,736	11,038	72,282

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 10th May 1888.

to Municipalities, Dispensaries, &c., in the Province of Bengal during the year 1887-88.

RE-VACCINATION.							NUMBER VACCINATED AMONG—				PERCENTAGE OF SUCCESSFUL CASES.		REMARKS.
Total.			Successful.										
Males.	Females.	Total.	Under 1 year.	1 and under 6 years.	Above 6 years.	TOTAL OF ALL AGES.	Hindus.	Mahomedans.	Christians.	Other races.	Primary.	Re-vaccination.	
30	2	32	.....	.....	16	16	2,007	816	2	.....	97'65	50'
87	20	107	.....	2	16	18	1,685	65	0	.....	98'47	31'27
.....	.....	.....	.....	.....	.....	.....	55	78	.....	.....	98'56	.....
32	24	56	.....	2	39	41	2,095	197	37	.....	94'46	78'31
24	11	35	.....	1	10	11	2,837	378	16	.....	98'41	31'43
20	19	45	.....	1	8	9	2,250	685	13	.....	99'20	30'
75	39	114	.....	.....	50	53	4,854	1,892	33	.....	98'87	47'32
25	9	34	.....	2	12	14	1,344	630	12	.....	97'21	41'17
4	4	8	.....	3	4	7	657	354	5	.....	98'37	87'50
.....	.....	.....	.....	.....	.....	.....	325	323	.....	.....	99'84	.....
131	66	197	.....	2	179	181	2,129	1,086	10	3	98'84	91'87
11	3	14	.....	2	8	10	261	361	.....	.....	100'	76'52
50	80	130	1	14	19	34	414	678	8	.....	98'69	47'22
97	45	142	.....	10	104	114	670	379	94	2	98'08	86'28
3	6	9	.....	7	.....	.....	145	237	3	.....	98'51	100'
2	.....	.....	.....	.....	2	2	310	603	1	.....	98'86	100'
.....	.....	.....	.....	.....	2	2	1,297	30	39	371	99'59	100'
.....	.....	.....	.....	.....	.....	.....	107	93	.....	.....	100'	.....
46	15	61	.....	2	51	53	1,109	1,444	16	.....	98'92	89'33
2	1	3	.....	.....	.....	.....	430	742	2	.....	98'71	.....
6	.....	.....	.....	.....	3	3	613	105	.....	.....	98'64	50'
16	6	21	.....	.....	4	4	559	635	.....	.....	97'07	23'53
25	6	31	.....	11	12	23	551	745	3	.....	94'24	79'31
.....	.....	.....	.....	.....	.....	.....	63	585	9	3	85'20	.....
.....	.....	.....	.....	.....	.....	.....	87	72	.....	.....	94'93	.....
16	21	37	1	6	2	11	3,403	1,470	71	.....	91'39	29'73
6	3	9	.....	3	3	6	1,287	395	3	.....	97'45	75'
24	9	33	.....	3	10	23	2,640	1,197	8	.....	91'08	66'66
10	5	15	6	9	.....	15	1,508	601	16	.....	88'64	100'
8	2	10	.....	5	2	7	4,310	1,304	7	.....	83'70	70'
2	.....	.....	.....	.....	2	2	2,076	1,186	6	.....	92'97	100'
7	9	16	.....	9	5	14	1,441	752	182	.....	95'68	87'60
32	16	48	.....	.....	1	1	4,281	758	16	.....	98'65	8'08
25	15	40	2	10	3	21	870	895	41	.....	93'39	53'94
4	3	7	.....	2	.....	2	306	195	10	.....	98'23	23'27
.....	.....	.....	1	.....	.....	.....	412	172	.....	.....	88'11	100'
4	4	8	.....	.....	.....	.....	643	119	.....	1	98'93	.....
236	43	279	.....	11	131	142	1,968	845	168	29	83'54	58'69
.....	.....	.....	.....	.....	.....	.....	532	2	.....	.....	88'63	.....
54	42	96	.....	.....	90	90	614	227	154	.....	91'07	94'73
.....	.....	.....	.....	.....	.....	.....	713	238	8	.....	97'23	.....
.....	.....	.....	.....	.....	.....	.....	501	296	88	.....	93'36	.....
.....	.....	.....	.....	.....	.....	.....	169	43	11	96	96'74	.....
1	2	3	.....	.....	3	3	240	33	3	.....	97'43	100'
1,071	481	1,552	12	128	800	940	54,926	22,513	1,042	490	94'53	61'80	

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

A.

Statement showing the Deaths from Small-pox during the year 1887-88 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULA- TION.	DEATHS DURING--												RATIO OF DEATHS PER 1,000 OF POPULATION.	
				April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.		TOTAL.
METROPOLITAN.	Burdwan	Calcutta	433,219	...	2	...	...	...	...	...	...	...	1	...	1	4	'009
		Burdwan	27,330	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kalna	81,583	...	...	...	...	...	...	...	...	...	...	...	1	1	'01
		Raniganj	135,646	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Assensole	98,842	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sahibganj	75,171	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khandghosh	64,981	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Roona	97,100	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gangur	102,748	...	...	...	...	...	...	7	4	...	...	...	...	11	'10
		Anugram	97,311	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Keturam	73,723	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mangalkot	73,543	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Katwa	70,334	...	...	...	...	...	...	...	...	1	...	...	...	1	'01
	Kaksa	38,988	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mont-swar	63,063	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hud-Bud	79,073	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Purbasthali	82,070	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,251,587	...	...	...	...	...	...	...	7	4	1	...	1	13	'01
	Bankura	Bankura	116,804	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gangajakhat	172,607	...	...	...	...	...	...	...	...	...	...	...	...	1	'009
		Bissenpur	119,595	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Anda	119,321	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sonamukhi	67,400	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kotalpur	94,904	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Indas	78,809	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khatra or Soopole	89,122	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Simpal and Raipur	128,484	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	990,106	...	...	...	...	...	...	...	...	...	...	...	1	1	'001
	Birbhum	Suri	118,891	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dubrajpur	126,606	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Rampurhat	87,774	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bolpur	107,693	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sakulpur	122,723	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Moureswar	88,836	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nalhati	133,897	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	786,580	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Midnapore	Tamluk	74,005	...	...	2	...	...	...	...	...	1	...	...	...	1	'01
		Maslandpur	80,509	...	...	1	...	...	...	...	...	...	...	...	...	1	'03
		Coutai	130,544	...	...	...	...	...	...	...	...	...	...	...	...	...	'007
		Chandrakona	68,510	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Garbeta	136,786	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Midnapore	128,546	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Narsinghar	129,199	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Datan	123,447	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gopiballabpur	136,928	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jhargram	89,763	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Binpur	90,704	...	2	...	...	...	...	...	...	...	...	...	...	2	'03
		Saltuni	63,617	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Keshpur	95,809	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Daspur	115,209	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Debra	70,120	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sohong	201,714	...	1	...	1	...	...	...	...	...	...	...	...	2	'009
		Panchkura	142,081	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sutahatta	64,624	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nandigram	121,895	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raghunathpur	63,124	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Egra	63,617	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khajri	42,126	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pataspur	87,324	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bhagwanpur	90,461	...	...	...	...	...	...	...	...	...	1	...	...	1	'01
		Ghatal		71,455	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Total	2,433,802	1	2	3	1	...	...	...	...	1	1	...	1	10	'004
	Hughli	Bansbaria	89,142	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hughli	15,458	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dhaniakhali	93,537	...	...	...	...	...	...	...	...	...	...	...	2	2	'13
		Salagarh	48,218	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pandua	60,113	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jahanabad	99,905	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khanakul	1,33,300	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Goghat	1,11,121	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Singur	48,943	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kuripal	84,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chandiola	84,387	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Krishnagar	85,107	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Total	8,87,164	...	...	...	...	...	...	...	...	...	...	...	2	2	'002
	Howrah	Domjoor	123,477	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Uluberia	81,345	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jugabullabpur	77,539	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ampta	109,909	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bagman	63,583	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shampur	68,981	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	629,753	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Statement showing the Deaths from Small-pox during the year 1897-88 in the THANAS IN WHICH VACCINATIONS WERE PERFORMED—continued.

[illegible]

*Statement showing the Deaths from Small-pox during the year 1887-88 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.*

CIRCLES.	DISTRICTS.	THAVAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULA- TION.	DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION		
				April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.		TOTAL.	
DARJILING—continued.	Pubna	Pubna	174,381	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Seraganj	188,148	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dulai	186,363	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chatmohar	133,407	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mathura	102,488	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shazadpore	216,494	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Darjiling	Ulapara	171,711	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Baiganj	92,374	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,275,424	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Darjiling	45,300	1	...	...	1	...	...	...	...	...	...	...	...	2	04
Julpaijuri	Phonsidewa	53,241	17	10	4	2	...	...	...	...	...	...	...	...	35	143	
	Kurseong	22,907	...	...	...	...	...	...	...	...	...	...	...	...	1	08	
	Kalimpong	12,683	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	144,191	19	10	4	3	...	...	...	...	...	1	...	...	37	25	
DARJILING—continued.	Julpaijuri	Silligoree	80,178	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Boda	176,643	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Julpaijuri	87,471	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Patgram	64,636	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mynaguri	66,451	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Alipur	32,080	...	1	...	...	...	...	...	...	...	...	...	...	1	08
	Purneah	Kairanti	32,453	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Saibari	51,607	...	...	...	...	...	...	...	...	...	...	...	...	6	11
		Total	573,615	...	1	...	...	...	...	...	...	...	...	...	...	6	7
		Purneah	138,704	2	...	1	3	03
Purneah	Kusha Amour	124,849	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Dhamsdaha	169,391	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gondwara	123,945	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Arrarca	200,012	...	...	1	...	...	...	...	...	...	...	...	...	...	1	004
	Matiari	94,115	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Baniganj	107,552	...	...	...	...	...	...	...	3	...	...	...	...	...	3	03
	Kissenganj	158,100	...	...	...	...	...	...	...	...	...	...	...	...	...	5	03
	Bahadurganj	196,142	...	...	...	...	...	...	...	...	5	...	...	...	...	1	006
	Kaliaganj	277,059	...	...	...	8	...	...	...	...	...	...	...	...	...	10	03
	Kadwa	134,275	...	2	3	...	...	...	...	...	...	...	...	...	...	5	03
Mymensing	Balarampur	115,031	...	...	...	...	...	...	...	...	...	...	...	...	...	1	008
	Manihari	54,436	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	1,833,671	2	2	5	8	...	...	1	3	1	5	...	2	20	01	
	TOTAL OF DARJILING CIRCLE	10,140,620	39	26	11	16	...	2	1	3	3	11	21	3	163	01		
	Mymensing	Jamalpur	193,238	2	2	1	8	04
		Kishorganj	123,705	7	05
		Atia	440,243	...	2	17	1	20	04
		Katwali	287,164	3	...	1	4	01
		Phulpur	114,467	2	01
		Ishwarganj	229,452	7	1	8	03
Gaffarganj		117,769	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Shorpur		178,289	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Dowarganj		161,372	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Bazidpur		202,633	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Faridpore	Nikli	122,450	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pingna	76,282	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gopalpore	217,736	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Netrakona	471,638	4	2	1	...	...	...	...	...	...	...	2	3	...	12	02
	Durgapur	110,467	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	2,991,854	15	6	2	3	17	2	...	1	1	12	6	10	75	02		
	Faridpore	Faridpore	61,288
		Bhushna	107,415
		Awampur	100,257
		Bhanu	164,989
Maksudpur		166,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madaripur		163,619	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kotalipara		66,153	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gopalkanj		85,341	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Shibchar		116,043	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Palang		286,250	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Noakhali	Goulundo	87,398	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
	Pangsa	150,366	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Baizakandi	65,069	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	1,600,521	1	...	1	...	...	...	...	...	3	28	9	3	1	46	07
	Noakhali	Sandip	72,467
		Fenny	182,607
		Chhagalnala	108,378
		Hattia	46,245
		Beganganj	128,933
		Lakshimpur	113,321
Sudharam		86,154	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Banganj		80,742	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	773,917	5	1	...	...	...	...	...	...	...	1	...	...	...	7	008	

*Statement showing the Deaths from Small-pox during the year 1887-88 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED - continued.*

CIRCLES.	DISTRICTS.	THANAS IN WHICH THE VACCINATIONS WERE PERFORMED.	POPULA- TION.	DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION.		
				April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.		TOTAL.	
EASTERN BENGAL—continued.	Dacca ...	Keraniganj ...	164,287	...	...	...	...	...	...	...	...	...	...	2	...	3	'01
		Kapasia ...	119,515	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Rupganj ...	164,159	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Munshiganj ...	243,483	...	...	...	...	...	...	...	...	...	...	...	...	10	'04
		Srinagar ...	275,984	...	...	...	...	...	...	...	...	...	...	...	...	2	'007
		Manickganj ...	184,196	...	...	...	...	...	...	...	...	...	...	...	...	4	'07
		Harirampur ...	100,009	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sabbar ...	174,831	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raipur ...	202,738	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Narainganj ...	91,199	...	...	...	...	...	...	...	...	...	...	...	...	...	...
EASTERN BENGAL—continued.	Tipperah ...	Nawabganj ...	160,235	...	...	...	...	...	...	...	...	...	...	2	10	12	'07
		Jafarganj ...	143,012	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total ...	2,023,628	...	...	...	...	...	...	...	...	...	5	13	22	40	'01
		Brahmanberia... ..	223,751	...	...	...	...	...	...	...	...	...	1	1	2	4	'01
		Nabinagar ...	175,971	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Comilla ...	125,979	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chandina ...	78,531	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Muradnagar ...	153,322	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Daudkandi ...	143,222	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chandpur ...	112,034	...	...	...	...	...	...	...	...	1	9	2	3	15	'13
EASTERN BENGAL—continued.	Backerganj ...	Laksham ...	86,872	...	...	...	...	...	...	...	...	...	...	...	...	1	'009
		Jagannathdighi ...	103,218	...	...	...	...	...	...	...	...	1	...	...	...	...	...
		Kaaba ...	114,152	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hajiganj ...	172,347	1	5	4	...	...	...	...	...	...	...	...	...	10	'05
		Total ...	1,493,289	1	6	4	...	...	...	...	...	1	11	3	5	30	'02
		Barrisal ...	113,733	1	1	...	...	...	...	...	...	...	...	...	...	2	'01
		Bauphal ...	95,188	...	...	...	...	...	...	...	3	...	...	...	...	3	'03
		Nalchiti ...	77,075	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Porozepur ...	115,048	1	...	...	...	...	...	2	3	8	14	...	...	28	'24
		Jhalokati ...	141,953	...	1	...	...	...	...	2	2	1	3	3	...	12	'08
EASTERN BENGAL—continued.	Manbhum ...	Bhandaria ...	73,352	1	2	...	1	2	4	1	5	...	4	2	1	23	'31	
		Gulachipa ...	59,037	...	...	...	...	...	...	...	...	2	2	2	...	6	'10
		Gauranaddi ...	184,192	...	...	...	...	...	...	...	...	...	...	1	...	1	'005
		Medhiganj ...	145,711	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Backerganj ...	135,396	...	...	...	...	...	...	4	2	...	...	...	...	7	'05
		Bhola ...	123,169	...	...	...	...	...	...	...	...	...	1	1	...	2	'01
		Patuakhali ...	173,801	...	...	...	...	...	...	2	2	2	1	...	...	5	'02
		Suropkati ...	180,284	...	...	...	...	...	...	...	...	...	...	...	...	2	'01
		Gulakhal ...	98,732	...	...	...	...	...	1	...	2	1	...	...	...	4	'04
		Matbari ...	96,032	9	7	4	4	3	3	6	7	3	...	...	...	45	'46
EASTERN BENGAL—continued.	Hazaribagh ...	Barhanudi ...	89,061	...	...	...	...	...	...	...	...	...	1	...	...	1	'01
		Total ...	1,581,764	12	11	4	5	5	5	8	29	23	29	9	1	141	'07	
		TOTAL OF EASTERN BENGAL CIRCLE	10,759,973	34	23	11	8	22	7	8	33	53	67	34	39	539	'03	
		Purulia ...	177,667
		Jaipur ...	24,258	1	...	...	...	...	...	...	...	...	...	...	...	1	'04
		Jhaida ...	67,133	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Baghmundi ...	33,384	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barabhum ...	133,847	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Manbazar ...	63,615	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raghunathpur ...	108,668	...	...	...	...	...	...	...	...	...	...	...	...	...	...
EASTERN BENGAL—continued.	Hazaribagh ...	Gourandi ...	45,793	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Para ...	39,740	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chas ...	89,174	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Govindpur ...	39,073	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Toondi ...	18,417	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jharis ...	39,854	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nirsha ...	50,027	3	...	...	...	...	...	...	...	...	...	...	...	2	'03
		Topchanchi ...	48,013	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ichaghar ...	64,242	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total ...	1,048,924	3	...	...	...	...	...	...	...	...	...	...	...	3	'002
EASTERN BENGAL—continued.	Hazaribagh ...	Hazaribagh ...	87,718	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chatra ...	64,018	...	...	...	1	...	...	...	...	...	...	...	...	3	'05
		Gowan ...	53,375	1	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Bagodhar ...	59,302	...	...	...	3	...	...	...	...	...	...	...	...	3	'05
		Siwaria ...	37,029	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kashmar ...	47,094	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ohouparan ...	70,437	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jagowar ...	53,593	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Burhi ...	52,054	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dumhri ...	68,685	...	...	...	...	...	...	...	...	...	...	...	...	...	...
EASTERN BENGAL—continued.	Hazaribagh ...	Kharackdih ...	150,545	...	...	...	...	...	...	...	...	...	...	...	2	2	'01
		Kodarma ...	73,802	...	...	1	...	...	1	...	...	...	...	...	...	2	'02
		Hunterganj ...	56,984	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Samghur ...	72,953	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tandowa ...	55,780	...	...	1	...	...	...	...	...	...	...	...	...	1	'01
		Paohamba ...	86,097	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Total ...	1,039,436	1	...	2	4	...	1	...	2	...	...	...	3	13	'01

*Statement showing the Deaths from Small-pox during the year 1887-88 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.*

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULA- TION.	DEATHS DURING—													RATIO OF DEATHS PER 1,000 OF POPULATION.
				April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.	TOTAL.	
RAYONI—concluded.	Lohardugga...	Daltonganj	64,203	...	...	...	3	9	...	...	...	...	...	...	...	12	'18
		Ranchi	122,152	...	...	...	...	1	...	...	...	...	...	...	...	9	'07
		Lodhma	67,988	1	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Choriya	50,230	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Turpa	104,140	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Lohardugga	122,023	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Korambe	39,078	...	...	...	...	1	...	...	...	...	...	...	...	10	'11
		Tamar	95,696	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sili	68,335	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hasia	95,234	...	...	...	...	...	...	...	...	...	...	...	...	21	'23
RAYONI—continued.	Singbhum ...	Palkot	108,719	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barwya	51,080	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Biru	66,061	...	...	...	...	...	...	...	...	...	...	...	...	10	'15
		Salumat	66,253	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Munkoh	46,993	...	...	...	...	...	...	...	...	...	...	...	...	6	'12
		Patun	79,051	...	...	...	...	...	...	...	...	...	...	...	...	7	'08
		Chhattarpur	30,521	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Garwah	75,830	1	...	...	...	...	...	...	...	...	...	...	...	12	'15
		Ramkunda	64,300	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hoselabad	102,515	...	...	...	...	...	...	...	...	...	...	...	...	6	'05
RAYONI—continued.	Singbhum ...	Total	1,576,134	2	6	21	18	14	...	...	1	...	12	8	12	94	'06
		Chaibassa	205,652	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chuckordharpur	78,408	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Ghatilla	165,709	...	...	...	...	...	...	1	...	...	2	...	...	3	'01
		Borsikola	77,023	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kharsowan	31,127	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	555,958	...	...	...	...	...	...	1	...	2	...	1	...	4	'007
		Political States	545,783	Not under registration.													...
		TOTAL OF RANCHI CIRCLE	4,916,235	6	6	23	22	14	1	1	3	2	12	9	15	114	'02
BEHAR CIRCLE.	Patna	Dinapore	67,612	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barra	170,580	2	0	...	...	...	...	...	...	...	...	...	...	20	'11
		Behar	233,318	1	3	1	...	...	...	...	...	...	...	...	...	10	'04
		Attasara	78,032	...	...	...	...	...	...	...	...	...	...	...	...	1	'05
		Sillao	91,477	...	...	...	...	...	...	...	...	...	...	...	...	2	'02
		Patna	27,674	...	...	...	...	...	...	...	...	...	...	...	...	1	'03
		Rankipore	97,001	...	...	...	...	...	...	...	...	...	...	...	...	6	'05
		Masuria	120,613	1	2	1	...	...	...	...	...	...	...	...	...	2	'17
		Bikram	180,362	11	2	1	...	...	...	...	...	...	...	...	...	21	'11
		Mokamah	95,824	5	5	1	...	...	...	...	...	...	...	...	...	1	'17
BEHAR CIRCLE.	Gya	Hilsa	170,075	1	...	...	...	...	...	...	...	...	...	...	...	8	'15
		Maner	98,516	...	...	...	...	...	...	...	...	...	...	...	...	2	'02
		Fatuha	88,051	1	3	1	...	...	...	...	...	...	...	...	...	104	'18
		Total	1,524,038	22	26	12	27	12	12	3	7	24	34	31	25	235	'15
		Daudanagar	92,296	2	5	5	...	...	...	...	...	...	...	...	...	15	'16
		Nawada	391,713	4	5	10	...	...	...	...	...	...	...	...	...	29	'07
		Arwal	110,435	3	4	2	...	...	...	...	...	...	...	...	...	15	'40
		Attri	78,516	1	...	...	...	...	...	...	...	...	...	...	...	1	'02
		Jahanabad	274,754	...	...	...	...	...	...	...	...	...	...	...	...	9	'04
		Tikari	176,803	1	1	...	...	...	...	...	...	...	...	...	...	8	'08
BEHAR CIRCLE.	Shahabad ...	Aurangabad	245,420	3	15	8	6	...	...	...	...	...	...	...	...	4	'21
		Total	1,369,948	14	32	29	20	11	4	...	4	3	12	20	34	183	'13
		Sasseram	133,042	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Domraon	242,103	2	1	...	...	...	...	...	...	...	...	...	...	...	...
		Kharghar	104,647	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Belouti	183,311	3	1	1	...	...	...	...	...	...	...	...	...	10	'05
		Bhabua	166,095	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Dehrie	78,884	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Arrah	231,437	11	10	...	...	...	...	...	...	...	...	...	...	87	'13
		Dhangain	170,016	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BEHAR CIRCLE.	Cuttack ...	Bazar	145,587	2	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mohanis	150,413	1	...	...	...	...	...	...	...	...	...	...	...	...	...
		Piru	179,492	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,845,827	19	17	7	6	14	6	6	2	...	4	2	2	85	'04
		TOTAL OF BEHAR CIRCLE...	4,739,613	55	75	43	53	37	22	9	13	27	50	53	61	503	'10
ODISHA.	Cuttack ...	Cuttack	155,335	4	1	...	...	...	...	...	...	...	...	...	...	...	...
		Jajpore	239,508	13	13	10	...	...	...	...	...	...	...	...	...	...	...
		Kendrapara	175,323	45	10	12	...	...	...	...	...	...	...	...	...	...	...
		Aul	91,015	10	3	1	...	...	...	...	...	...	...	...	...	...	...
		Salipur	249,779	15	3	...	...	...	...	...	...	...	...	...	...	...	...
		Jagatsingpur	215,001	5	1	...	...	...	...	...	...	...	...	...	...	...	...
		Patamundi	109,401	17	9	1	...	...	...	...	...	...	...	...	...	...	...
		Dharamasala	248,782	14	3	...	...	...	...	...	...	...	...	...	...	...	...
		Tirtol	183,677	16	20	...	...	...	...	...	...	...	...	...	...	...	...
		Banki	55,900	...	2	...	...	...	...	...	...	...	...	...	...	...	...
ODISHA.	Cuttack ...	Total	1,734,896	138	65	37	15	19	9	2	6	26	75	115	125	632	'36

*Statement showing the Deaths from Small-pox during the year 1887-88 in the THANAS IN WHICH ,
VACCINATIONS WERE PERFORMED—continued.*

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULA- TION.	DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION.			
				April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.		TOTAL.		
ORISSA— continued.	Puri	Puri	197,641	12	12	6	4	4	9	11	15	15	1	5	6	100	'50		
		Pipli	320,783	11	8	2	2	1	...	...	3	...	7	...	6	40	'17
		Gopi	116,167	3	2	1	12	3	...	2	3	...	1	...	2	35	'30		
		Khurda	280,478	6	3	...	1	...	1	5	13	...	4	...	21	112	'41		
		Banpur	53,927	...	...	...	...	...	4	3	2	7	5	...	4	25	'46
		Total	864,195	31	25	9	19	8	10	21	36	43	31	34	39	312	'36		
		Tributary States	372,574	e Not under registration.															
		TOTAL OF ORISSA CIRCLE...	2,081,665	189	90	46	34	27	25	23	42	69	106	149	104	944	'38		
	SOUTHAL PERGUNNAHS.	Sonthal Per- gunnahs.	Dumka	361,111	
			Rajmahal	243,474	1	4	'01
Pakour			204,019	
Deoghur and Jamtara			380,685	2	2	'005	
Godda			343,403	
		Total	1,547,688	2	...	...	2	...	...	...	...	...	...	...	1	6	'003
Bhagulpore		Colgong	186,555	1	1	1	3	'01	
		Hanks	134,227	1	1	'007	
		Madehpur	292,678	
		Kisconsanj	135,328	1	1	'007	
	Bhagulpore	100,379	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Monghyr	Bhagulpore	Sultanganj	98,427	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bihpur	98,403	1	1	'01	
		Supul	280,042	
		Portabganj	163,272	1	1	'006	
		Katuria	77,644	1	1	'01	
	Monghyr	Bungong	148,500	
		Amerpur	208,508	1	...	1	'004	
			Total	1,903,033	3	...	1	...	1	1	1	2	9	'004	
		Monghyr	Suwajgura	166,263	1	1	'006
			Sheikpura	190,480	1	1	2	'01
Monghyr	81,736		1	...	...	...	...	1	...	...	...	...	...	...	...	2	'02
Gogri	265,954		5	...	6	...	1	...	...	...	...	...	...	...	...	12	'03
Kharakpur	143,079		2	3	...	...	...	...	...	...	...	...	...	...	1	6	'04
Monghyr	Monghyr	Tegra	208,632	10	1	...	...	...	...	...	...	...	1	1	1	14	'06
		Begusarai	379,794	6	3	1	2	2	...	...	...	2	1	...	...	10	'04
		Bekandra	122,389	...	...	...	...	...	...	...	...	...	...	1	...	1	'008
		Jamul	112,154	2	3	...	3	...	...	...	...	...	...	...	...	8	'07
		Chakai	109,540	
		Total	1,664,031	26	10	7	5	3	1	...	...	4	2	2	2	62	'03
		TOTAL OF SOUTHAL PER- GUNNAHS CIRCLE	5,334,716	31	10	9	3	4	2	...	...	4	2	3	5	77	'01
		TOTAL FOR THE PROVINCE	53,329,256	336	244	163	142	105	59	53	104	164	254	272	333	2,219	'04		
		Municipalities, Dispensaries, &c.	24,23,040	60	69	40	36	24	14	14	14	27	39	47	57	431	'17		
		GRAND TOTAL	55,757,296	386	313	193	178	129	73	67	118	191	293	319	390	2,650	'05		

OFFICE OF THE SANY. COMMR. FOR BENGAL,

The 10th May 1888

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

B.

Statement showing the Total Deaths registered from Small-pox IN ALL THE DISTRICTS of the Bengal Province during each month of the year 1887-88.

DISTRICTS.	POPULATION.	NUMBER OF DEATHS DURING—												TOTAL.	RATIO OF DEATHS PER 1,000 OF POPULATION.	REMARKS
		April 1887.	May 1887.	June 1887.	July 1887.	August 1887.	September 1887.	October 1887.	November 1887.	December 1887.	January 1888.	February 1888.	March 1888.			
Calcutta	483,219	...	2	...	...	...	...	...	...	...	1	...	1	4	'009	
Burdwan	1,391,823	...	...	...	...	1	...	7	4	1	...	...	2	15	'01	
Bankura	1,041,752	...	...	...	...	...	...	...	...	...	...	...	1	1	'0008	
Birbhum	794,428	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Midnapore	2,515,568	1	2	3	1	...	...	...	...	1	1	...	1	10	'003	
Hughli including Serampore ...	1,015,005	...	...	...	...	1	...	...	...	...	...	...	2	3	'002	
24-Pergunnahs	1,618,420	...	4	...	...	...	1	1	...	1	...	2	...	9	'005	
Suburbs of Calcutta	251,430	...	1	...	...	...	...	2	3	...	2	...	6	14	'05	
Total of 24-Pergunnahs ...	1,800,859	...	5	...	...	...	1	3	3	1	2	2	6	23	'01	
Howrah	685,381	5	2	...	1	1	...	2	1	...	...	...	3	15	'02	
Nudda	1,655,721	...	3	3	...	1	...	1	3	3	2	3	4	23	.01	
Jessore	1,639,375	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Murshidabad	1,226,790	...	4	...	...	...	...	...	...	...	...	...	1	5	'004	
Khulna	1,079,948	1	...	...	...	...	...	...	...	...	...	...	2	3	'002	
Dinajpur	1,514,546	1	8	1	5	...	9	...	...	2	...	1	...	20	'01	
Rajshahye	1,338,638	2	...	1	...	...	...	...	...	...	2	...	...	5	'003	
Rungpur	2,087,964	15	6	...	...	...	...	...	...	...	9	28	31	89	'04	
Bogra	734,358	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pubna	1,311,728	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Darjiling	156,137	19	10	4	3	1	1	...	...	...	1	...	...	39	'24	
Jalpaiguri	561,562	...	1	...	...	...	...	...	...	...	...	...	6	7	'01	
Maldah	710,448	...	1	...	...	...	...	...	...	...	...	...	1	2	'002	
Purneah	1,848,087	2	2	5	8	...	...	1	4	1	5	...	2	39	'01	
Dacca	2,116,350	...	1	...	...	...	...	...	...	...	0	14	22	43	'02	
Faridpore	1,631,734	1	...	1	...	...	1	...	3	28	9	3	1	47	'02	
Backerganj	1,900,889	12	11	4	5	6	5	8	29	23	29	9	1	142	'07	
Mymensing	3,051,966	15	7	2	3	17	2	...	1	1	12	6	10	76	'02	
Tipperah	1,519,338	1	6	4	1	...	...	...	...	1	11	8	5	32	'02	
Chittagong	1,132,341	...	1	...	...	...	...	...	...	...	...	1	...	2	'001	
Noakhali	820,772	5	1	...	...	...	...	...	...	...	1	...	...	7	'008	
Patna	1,750,856	27	30	16	32	16	14	3	8	25	39	35	32	277	'15	
Gya	2,124,082	46	102	64	30	17	4	4	0	12	17	20	50	375	'17	
Shahabad	1,964,909	64	76	64	196	191	121	92	86	42	10	7	6	955	'48	
Mozufferpore	3,582,000	35	30	12	8	...	1	3	1	1	10	14	42	157	'04	
Durbhanga	2,633,447	39	34	25	8	5	1	1	1	2	6	8	23	153	'05	
Sarnn	2,340,382	29	70	47	33	17	12	5	1	2	2	2	31	251	'11	
Chumparun	1,721,608	113	181	120	86	34	9	15	24	30	44	69	130	835	'48	
Monabhr	1,969,774	27	17	8	5	3	1	...	1	5	3	2	2	74	'03	
Bhagulpore	1,966,168	7	6	1	...	1	1	...	...	...	...	1	3	20	'01	
Sonthal Pergunnahs	1,568,093	2	...	...	...	3	...	...	...	...	...	...	1	6	'003	
Outtack	1,795,065	142	66	37	16	19	12	2	6	26	76	115	126	643	'03	
Puri	888,487	31	25	13	20	8	16	21	36	43	31	34	40	318	'35	
Balasore	945,280	18	15	7	6	5	1	...	2	9	136	126	85	410	'43	
Hazaribagh	1,104,742	1	...	2	4	...	1	...	2	...	...	...	3	13	'01	
Lohardugga	1,809,244	2	6	21	18	17	...	...	1	...	12	8	12	97	'06	
Singbhum	561,964	...	...	...	...	...	...	1	...	2	...	1	3	7	'01	
Manbhum	1,058,228	3	...	...	...	...	...	...	...	...	...	...	...	6	'002	
Total	66,597,103	606	731	465	472	361	203	169	226	261	477	512	691	5,237	'07	
Ratio of Deaths per 1,000 of Population ... ..	.....	'01	'01	'006	'007	'005	'003	'002	'003	'003	'007	'007	'01	'07	.....

OFFICE OF THE SANY. COMM. FOR BENGAL, }
The 10th May 1888.

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengl

RESOLUTION.

SANITATION.

Calcutta, the 10th September 1888.

READ—

The Report of the Sanitary Commissioner for Bengal for the year 1887, including the Report on Vaccination in Bengal for the year 1887-88, dated 18th June 1888.

Read also—

The Report for the previous year and the Resolution recorded upon it.

The remarks in last year's resolution on the length of the Sanitary Commissioner's report have been attended to by Dr. Lidderdale, who has succeeded in reducing his report from 163 to 65 pages without at the same time omitting anything of importance. The section relating to personal proceedings might be still further shortened.

2. *Registration of Births.*—Births were registered in 100 towns, against 45 towns in 1886. It is no doubt due to the number of towns in which registration was enforced for the first time that the recorded birth-rate fell from 21·04 per 1,000 to 19·35. The recorded birth-rate varied from 50·21 per mille in Jamal-pore to 66 per mille in Jehanabad. It is obvious that in many places sufficient attention has not been paid to the work of registration of vital statistics by the Municipal Commissioners who are at present responsible for it. The matter will be referred to the Municipal Department for such action as may be found necessary.

3. *Registration of Deaths.*—The death-rate per mille for 1887 is 23·46 against 21·99 in 1886, and a mean ratio for the previous five years of 20·96. These figures indicate some improvement in the registration of vital statistics which is most marked in a more accurate record of the death-rate among children of less than five years of age. The number of deaths among children under one year has increased to 145·40 per mille from a quinquennial mean of 111·81. There is reason to think, however, that the apparent improvement in registration is not altogether real. Dr. Lidderdale points out that the death-rate is calculated on the population as recorded in the census of 1881, and that, allowing for the probable increase in population since then, the corrected death-rate for 1887 would be about 21·41 per thousand. The rates recorded vary from 35·31 per 1,000 in Monghyr to 12·53 per 1,000 in Mozufferpore. The former figure is probably very nearly correct, and it is most important to note that the apparently high comparative death-rate in Monghyr is not due to its being an unhealthy district, but mainly to the admirable way in which Colonel Ramsay enforces report by the village chowkidars of the district. At present the position of any district on the list is very largely determined by the interest taken in registration by the Magistrate and District Superintendent of Police, and the Lieutenant-Governor is compelled to observe that in too many cases the results shewn are deplorably inaccurate, and the figures supplied absolutely worthless, for purpose of comparison or as a basis for sanitary action. The attention of Commissioners of Divisions, and of the Inspector-General of Police, will be emphatically called to the matter, the importance of which is manifestly often overlooked. District and Sub-divisional Officers and District Superintendents of Police must be got to realize that the collection of correct vital statistics is an important part of their duty. They should be urged to take a personal interest in the work, and to test the figures supplied to them by their own knowledge of the sanitary conditions of various parts of their districts, by facts which may come to their knowledge regarding the prevalence of epidemics of cholera or malarious fever or other diseases, and by local enquiry during their tours. By these means they can effectually check, if not put a complete stop to, the tendency to leave deaths unreported on the one hand, or the possible risk of imaginary deaths being reported on the other.

4. The following table shows the death-rate from various causes during the quinquennial period 1882-86, 1886 and 1887:—

		RATIO OF DEATHS PER 1,000 OF POPULATION.								
		In 1887.			In 1886.			In 1882-86.		
		Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.
Cholera ...	...	3.40	2.57	2.60	4.12	1.70	1.78	4.32	2.03	2.11
Small-pox ...	...	.13	.05	.05	.08	.08	.06	.43	.16	.16
Fevers ...	...	10.45	16.66	16.44	12.29	16.11	15.97	13.86	14.87	14.84
Bowel-complaints ...	...	3.48	.76	.85	3.77	.73	.84	3.72	.78	.89
Injury ...	...	.40	.40	.40	.60	.43	.43	.44	.38	.38
Other causes ...	...	6.22	2.97	3.09	6.51	2.74	2.88	6.19	2.42	2.56
Total ...	...	24.12	23.44	23.46	27.29	21.79	21.99	28.98	20.65	20.96

The most striking feature in this table is the close approximation between urban and rural mortality as compared with previous years. Dr. Lidderdale makes no remarks on the subject in discussing these figures, though it would appear to require explanation, as, while the recorded death-rate rose in rural circles, it actually fell in urban circles considerably below the quinquennial mean. From another part of his report it would appear that he attributes the decline to the fact that the charge of registration has been made over to municipal bodies (paragraph 57). This subject had been already noticed in a previous paragraph, and the Lieutenant-Governor trusts that measures may be taken to remove a decided blot in Municipal Administration. The only other noteworthy feature is the considerable mortality from cholera.

5. *Cholera.*—The recorded deaths from cholera rose to 172,578, against 118,368 in 1886, and a quinquennial mean of 139,869 for 1882-86. The number of villages attacked was 23,894, against 21,567 in 1886. The severity of this disease varied greatly in different parts of the province. In Bengal Proper the mortality fell to 1.70 per mille against 2.17 in 1886. The Suburbs of Calcutta, favourable climatic conditions notwithstanding, maintained its pre-eminence with a death-rate of 8.31, against a mean rate of 8.58 for the previous five years. The bad sanitary condition of Raneegunge, due, according to the Sanitary Commissioner, to neglect of duty by the Municipal Commissioners, afforded a breeding ground for cholera. It should, however, be mentioned that, as appears from the General Administration Report of the Burdwan Division, the Municipal Commissioners of Ranigunge were most energetic in remedial measures after the disease had made its appearance. It appeared there in the cool depôts, and was transmitted thence through Northern Bengal causing much loss of life. In Serampore there was an outbreak, ascribed to the use of bad water. In Midnapore cholera was imported by the pilgrims returning from Pooree. In Behar the number of deaths was 84,530, against 25,709 in 1886, and a quinquennial mean of 41,415, giving death-rates of 3.65, 1.11 and 1.79 per mille respectively. The districts most affected were Gya, Chumparun and Shahabad, with death-rates of 8.05, 7.50 and 7.15 per mille. Peculiar atmospheric conditions were associated with the appearance of this epidemic, "such as absence of the usual west winds, replaced by damp winds from the east, and a heavy downpour of rain in the end of May." In Gya town, where the death-rate was 8.78, sanitary improvement is greatly needed. In Shahabad the Civil Surgeon enquired as to the cause of the outbreak, and says "for all there is the same tale to relate—foul wells, foul tanks, human and animal ordure everywhere, damp houses, damp surroundings, and neglect of the first principles of sanitation." In Sarun the death-rate was 3.46, the largest on record for that district. It was most virulent there in Sewan in the municipality and rural circle. The former had a death-rate of 5.63. Chumparun was visited by the Sanitary Commissioner in August, who submitted a special report. He found here the usual insanitary conditions, and also noted that the epidemic "was preceded by two years of unusual rainfall, was associated with a very plentiful fruit crop, and with early rainfall and an absence of west winds." In Orissa the death-rate was 4.87 against a quinquennial mean of 4.18. The Puri district had a death-rate of 9.75—the highest in the province. Several sanitary improvements were proposed in the pilgrim routes. "It is intended in Cuttack to extend the Puri Lodging-house

Act along the main line of road, and to allot to the Sanitary Committee of the Local Board funds for conservancy at principal halting-places." Dr. Lidderdale recommends similar measures along the Grand Trunk Road. A copy of his remarks will be forwarded to the Municipal Department. In Chota Nagpore the death-rate was 2·45 per 1,000 against 30 per 1,000 in 1886 and a quinquennial mean for 1882-86 of 67. It was worst in places near the Gya and Shahabad districts.

6. *Small-pox.*—The number of deaths is the smallest on record, only 05 per mille, and testifies to the good results of systematic vaccination. 47 per cent. of the mortality is due to the Patna Division, where vaccination has only been extended to three districts. In the Orissa Division vaccination is said to be backward and inoculators active, and the result is that 32 per cent. of the deaths are reported from that division. Dr. Lidderdale states that many of the deaths put down to small-pox are really due to measles or fever attended by anomalous eruptions. While the death-rate for rural circles is 05 per mille, urban circles show a mortality of 13, and the very unsatisfactory explanation given by the Sanitary Commissioner is neglect of vaccination and inefficient administration of the Compulsory Vaccination Act.

7. *Fever.*—The statistics of fever mortality give a death-rate of 16·44, the highest yet recorded. The increase, however, appears to be due to improved registration, for the general view of Magistrates and Civil Surgeons is that the year was not an unhealthy one. There is a marked decline in the fatality in towns remarked on in paragraph 4. The Sanitary Commissioner remarks that of the eight districts heading the list, he believes all, except Monghyr, to be among the most feverish in the province, and he considers that this proves that in some parts of the country registration of deaths is beginning to show some relation to actual facts. The Rajshahye Division shows the very large death-rate of 27·16 per 1,000 from fever, but the rise of 6·11 over the average for the five years 1882-86 appears to be entirely due to better registration. In the Presidency Division the death-rate from fever in Nuddea has fallen from 29·22 per mille in 1884 and 26·85 in 1885 to 21·99 in 1887. It appears, however, very doubtful whether this is due to anything but defective registration last year. In Tipperah fever was so severe that five hospital assistants were sent to treat cases. The returns, which must be altogether untrustworthy, only show a death-rate of 12·63. In Shahabad there was a decided change for the better, the death-rate having fallen from 29·20 in 1886 to 20·62. The Civil Surgeon is of opinion that the canal irrigation there has intensified pre-existing influences, tending to produce disease.

8. *Mortality from other Causes.*—The mortality from bowel-complaints, injury and other causes during the year amounted to 56,893, 26,630, and 204,813 against 55,693, 29,081, and 190,818 respectively in 1886. The record of deaths from other causes is not reliable, and depends very much on the practice of the reporting and registering officers. The ratio for the whole province is only 3·09 per mille; but in Banpur rural circle in Pooree district it rose to 30·54 per mille, and the ratio of the Pooree district is 14·72, followed by Backergunge with a ratio of 7·83.

9. *Vaccination Operations.*—The following table shows the number of primary vaccinations performed in 1887-88 :—

CIRCLES.				PRIMARY. Total number of operations in 1887-88.
Calcutta	...	...	...	9,809
Metropolitan Circles	...	...	...	391,912
Suburbs of Calcutta, including Central Vaccination	...	...	...
Depôt and Cooly Depôts	...	...	...	8,768
Total of Metropolitan Circles	...	...	...	400,675
Darjeeling	Circle	...	...	274,876
Ranchi	"	...	...	144,782
Sonthal Pergunnahs	"	...	...	108,940
Eastern Bengal	"	...	...	540,467
Orissa	"	...	...	84,995
Behar	"	...	...	70,344
Total of Vaccination Circles	...	...	...	1,634,838
Municipalities, dispensaries, &c.	...	...	...	77,409
GRAND TOTAL	...	...	...	1,712,297

It is very unsatisfactory that while the total number of operations has increased by 108,378 as compared with the previous year, the number of operations in municipal and other areas, not included in the departmental circle, has decreased by 9,140. Dr. Lidderdale's remarks regarding the very useful depôt for bovine lymph in the Suburbs of Calcutta, and the desirability of establishing similar institutions on a smaller scale in large municipalities, such as Patna, Dacca, &c., will be sent to the Municipal Department. It is satisfactory to find that on the whole steady progress is being made, though there is still much opposition in many districts. From Moorsshedabad and Beerbhoom it is reported that the long sustained opposition of the Ferazis is being steadily overcome.

10. In the Sonthal Pergunnahs circle the services of the Government vaccinators were dispensed with, and the licensed system was introduced throughout the circle. The number of licensed vaccinators employed throughout the province was increased by 130. The Compulsory Vaccination Act (Act V (B.C.) of 1880) was extended to 40 towns during the year. In a good many places more use might be made of the Act. Thus in Patna the backward state of vaccination is said to be due to the apathy and indifference of the Municipality, as well as to the incompetence of the subordinate vaccination staff. In Motihari again no one was prosecuted up to the close of the year, and only 240 persons were vaccinated out of a population of 10,307. Dr. Lidderdale reports, however, that on the whole progress was made, and that Municipal Commissioners are said to have begun a more active administration of the law—a statement which it is difficult to reconcile with the falling off in the number of operations noted in the previous paragraph. The attention of the Municipal Department will be directed to this part of the report. The decrease in the death-rate of vaccinated areas from .13 in 1882-83 to .04 in 1887-88 contrasts very favourably with that in other areas, where it has varied between .55 in 1884-85 and .16 in 1886-87 and 1887-88.

11. *Expenditure on sanitation.*—There has been a satisfactory increase in sanitary expenditure, excluding roads, of Rs. 1,04,994, but there are still many towns in which the expenditure under this head is very inadequate, while there were 25 towns in which nothing was spent on original sanitary works. The most unsatisfactory feature of the expenditure is the very small sum allotted to the disposal of the dead, as in some places burial-grounds for Mahomedans are an urgent sanitary want.

12. *Sanitary works.*—The Bhagulpore water-works progressed satisfactorily. Nothing has been done for the water-supply of the towns on the right bank of the Hooghly from Serampore to Howrah, notwithstanding the conditions on which Howrah was relieved of its police charges. In Hooghly Mr. Toynbee's efforts to get the owners of tanks to come forward and make them over to the District Board for the purpose of being repaired and maintained as a source of drinking water-supply met with no success. In Burdwan Rs. 5,800 were advanced under the Land Improvements Loans Act to some landholders and tenants for cleaning and deepening old and silted up tanks and for excavating new ones. In Dinagepore a large scheme of town drainage was in progress at the expense of the Maharajah of Dinagepore. In Moorsshedabad Rs. 1,645 were spent on the Baluchur drainage scheme. In Midnapore Rs. 29,692 were expended on the Surpai drainage works and upwards of Rs. 10,000 on protective embankments. In Howrah the Commissioners spent Rs. 30,000 on a small tramway for the removal of night-soil beyond municipal limits.

13. *Extension of sanitary laws.*—The Municipal Act III (B.C.) of 1884 was introduced into three towns. The Compulsory Vaccination Act (Act V (B.C.) of 1880) was introduced into 40 municipalities. Act IV (B.C.) of 1865, forbidding inoculation, was extended to 7 thanas in Backergunge and 6 thanas in Gya district. It is now in force throughout Lower Bengal, excepting Chittagong, the greater part of Orissa, and four-and-a-half districts of Behar.

The Local Self-Government Act III (B.C.) of 1885 was introduced into 22 districts, and is now in force in all but 7 districts.

14. The Sanitary Commissioner describes at some length the result of his inspections and of the inspections by circle officers. Only four of the towns visited were found to be in a satisfactory condition. He shows that the unsatisfactory results of the sanitary inspection of villages is not due to any want of a clear perception of what should be done, but to the absence of any agency to

see that reforms suggested are carried out. When a Sanitary Board has been constituted as directed in the Government of India's Resolution of the 28th July, it will be its first duty to draw up a practicable scheme providing an agency to carry out the reforms on which it may decide. (Sir Steuart Bayley has had under consideration various proposals regarding rules to be passed for village sanitation, but he proposes to defer passing orders till he can have the advantage of the suggestions of the Board. The Municipal Department will be asked to consider, in addition to the matters to which their attention has been specially called, the remarks made by the Sanitary Commissioner upon various points noted in the Report connected with sanitation of areas under the Administration of Municipal, District, or Local Boards, and the means of getting better work done under this head by Municipal Boards.

By order of the Lieutenant-Governor of Bengal,

J. WARE EDGAR,

Chief Secretary to the Govt. of Bengal.

— — —
No. 2655P.

COPY of the above Resolution forwarded to the Sanitary Commissioner for information and guidance.

— — —
No. 2656P.

COPY of the above Resolution and of the Report forwarded to the Inspector-General of Civil Hospitals, for information.

— — —
Circular No. 12P.

COPY of the above Resolution and of the Report forwarded to all Commissioners of Divisions, whose special attention is invited to the remarks contained in paragraph 3 of the Resolution and paragraphs 4 and 5 of the Report.

— — — — —
No. 2657P.

EXTRACT paragraph 3 of the above Resolution, and paragraphs 4 and 5 of the Report, forwarded to the Inspector-General of Police, for information and communication to District Superintendents of Police.

— — — — —
No. 2658P.

COPY of the above Resolution and of the Report forwarded to the Municipal Department of this Office for information, with the request that special attention may be bestowed to the remarks contained in paragraphs 2, 5, 9, 10 and 14 of the Resolution and paragraphs 47, 90, and 102 of the Report.

By order of the Lieutenant-Governor of Bengal,

R. W. CARLYLE,

Offg. Under-Secretary to the Govt. of Bengal.

CALCUTTA,

The 10th September 1888.

NINETEENTH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER FOR BENGAL

FOR THE YEAR 1886.

INCLUDING THE ANNUAL REPORT ON VACCINATION IN BENGAL
FOR THE YEAR 1886-87.

BY

DEPUTY SURGEON-GENERAL R. LIDDERDALE, M.D.,

Sanitary Commissioner for Bengal.

Calcutta:

PRINTED AT THE BENGAL SECRETARIAT PRESS.

1887.

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NINETEENTH ANNUAL REPORT
OF THE
SANITARY COMMISSIONER FOR BENGAL.

YEAR 1886.

INTRODUCTION.

1. This Report presents the vital statistics and Sanitary history of the Province of Bengal for the calendar year 1886, and the general history of Vaccination of the same Province for the financial year 1886-87; but the statements appended to it do not include the figures for the Town of Calcutta.

SECTIONS I, II, III, & IV.

2. Under standing orders on the subject, the information required under the above-mentioned Sections will be furnished in the Report of the Imperial Sanitary Commissioner. It consequently finds no place in this Report.

SECTION V.

VITAL STATISTICS.

3. Births were registered during the year under review in 45 principal Towns, against 46 in the preceding year, the exception being the township of Mokameh in Patna, which was abolished. They amount to 34,734 in opposition to 40,752 in 1885, showing a diminution of 6,018, and distributed over the population—numbering 1,650,855—among whom they were chronicled, yield a birth-rate of only 21·04 per 1,000—a radically defective result. An examination of the returns shows that only 4 towns against 11 in 1885 presented what may be accepted as approximately correct rates,

and that in 22 against 14 the omissions in registration were conspicuously large. These towns are cited in the margin. In the rest of them the birth-rates ranged from 21.49 to 30.54 per 1,000 of population. From a review of these figures it is clearly apparent that the defects of the year under notice are much greater than those of the preceding year—and it is a matter of much regret that several important towns, notably the Suburbs of Calcutta, should appear on the defective list. I trust, however, that as the work of registration has, under the recent orders of Government, passed from the hands of the Police to Municipalities, substantial improvement will be effected in future years. But to

Approximately correct results.		Very defective results.	
	Ratio per mille.		Ratio per mille.
Jamulpore in Monghyr	43.72	Arrah	4.46
Bettiah	39.74	Ranaghat	5.52
Revilgunge	33.05	Jessore	5.88
Brahmanberiah	32.94	Basirhat	7.92
		Darjiling	8.02
		Faridpore	8.67
		Jajpur	10.14
		Santipore	11.92
		Puri	12.10
		Chupra	12.75
		Ranchi	14.74
		Midnapore	15.40
		Purneah	15.51
		Balli	16.18
		Dacca	16.26
		Barrh	16.94
		Cuttack	18.87
		Suburbs of Calcutta	19.30
		Mozufferpore	19.34
		Purulia	19.45
		Behar	19.54
		Kishnaghur	19.79

attain this end the personal and sustained attention and supervision of the Municipal Commissioners are indicated.

4. Referring to the death-rolls, it is seen that 1,455,305 deaths, or at the rate of 21.99 per 1,000 of the population, were recorded therein in 1886 as opposed to 1,504,745, or at 22.74 per 1,000, during the preceding year; or, in other words, that 49,440 fewer deaths were registered during the year under review. Sifting the subject further, it is found that of the 645 registering circles in Bengal, 4 registered deaths at 50 and above per 1,000 of population, 14 at 40 to 50 per 1,000, 81 at 30 to 40, 298 at 20 to 30, and 248 at under 20, the corresponding numbers of the preceding year being 8, 22, 89, 324 and 204; and that 14 districts against 15 recorded approximately correct, and 16 against 12 defective results, *vide* marginal figures, the rest of the districts yielding casualty rates ranging from 20.04 to

Approximately correct results.		Defective results.	
	Ratio per mille.		Ratio per mille.
Shahabad	36.17	Mozufferpore	13.24
Jalpaiguri	35.32	Durbhanga	13.25
Kungpore	32.22	Sonthal Pergunnahs	13.65
Pubna	31.73	Chittagong	13.95
Nuddea	28.91	Singhhum	14.48
Monghyr	28.89	Manbhumi	14.88
Rajshahye	27.01	Maidah	15.51
Backergunge	26.71	Lohardugga	16.86
Bhagulpore	26.62	Bankura	16.90
Balasore	26.08	Tipperah	17.87
Bogra	26.02	Faridpore	18.01
Darjiling	25.91	Mymensing	18.04
Dinnajpur	25.88	Howrah	18.68
Gya	25.53	Hazaribagh	19.04
		Burdwan	19.48
		Cuttack	19.59

23.87 per 1,000 of population. The *prima facie* inference from a consideration of these figures in comparison with the record of the preceding year would be that, a retrogression in registration had occurred; but there are facts associated with the falling off which militate against this view of the matter. General testimony pronounces the year under review to have been a healthy one, and cholera alone exhibits a reduction of 55,399 deaths. Even in the Monghyr district, where registration was most carefully and energetically looked after by Colonel Ramsay under his admirable system described on page 3 of my Report for 1885, there was a fall in the number of deaths recorded from 63,555 to 56,917, and in the 17 districts in which an enhanced number of deaths were registered, the increment in the majority of them is attributed to better registration. Nevertheless, there is no doubt that many individual defects still exist which vitiate the general result, and which might, if more care and attention were exercised by the local officers concerned, be rectified. Noticeable instances of irregularities in this direction are the following:—Personal enquiries instituted by the Magistrate of *Maldah* into deaths which occurred in villages, resulted in his finding that the events in many villages had not been reported at all, owing to the carelessness of the punchayet and chowkidars. He assembled the chowkidars and pointed out to the defaulters their shortcomings, and punished those who neglected their duty most. The District Superintendent of Police appears to have been interesting himself in the matter, but,

as usual, threw all the blame on the chowkidars. If the regular Police were to ensure the weekly attendance of the chowkidars, and would systematically take down the information they bring, a very different result would be obtained than a death-rate of 15.5 per 1,000 of population. There is a very remarkable feature in the registration of this district, viz. that the urban mortality is only about half the rural, showing even more neglect of registration in towns than in the district. The Deputy Commissioner of *Jalpaiguri* reports that the registration is very defective, and that in one tea-garden alone, where 200 deaths occurred, none of them were reported owing to the scarcity of police in the Duars. The Magistrate of *Tipperah* is of opinion that 25 per cent. of the deaths in the district escaped registration. The Civil Surgeon of *Dacca* believes that the deaths of very young female children and of old women are rarely registered, such casualties being considered beneath even a chowkidar's notice. The Civil Surgeon of *Durbhanga* is of opinion that not half the deaths are registered, and the Magistrate reports that the Police Officers did not appear to have made sufficiently close inspection as to chowkidars having failed to report deaths, and that chowkidars who neglected this duty were only warned. Considering what has been done in the neighbouring district of Monghyr by Colonel Ramsay, the District Superintendent of Police, there is considerable discredit attaching to the administration of *Durbhanga* with regard to registration. Nothing is simpler than Colonel Ramsay's plan of requiring the attendance of chowkidars, and consequent easy access to the information sought. Similarly all that was done for the improvement of the very defective registration in *Lohardugga* was to warn some chowkidars. The Magistrate of *Nuddea* thinks that by the removal of bodies to the banks of the Bhagirathi and Pudda rivers for cremation, many deaths escape registration, as the deaths do not occur at the places of residence, and are consequently unknown to the Police. The Superintendent of Vaccination, Santhal Pergunnahs Circle, has particularly pointed out large omissions of deaths near *Rajmehal*. On the other hand, the evidence of growing interest in the matter is indicated in several of the local reports. The following instances may be cited:—The Magistrate of *Murshidabad* reports that during his personal visits to the thanas to test registration, he noticed “a gradual increase in the efficiency of the machinery for registration, so that already the vital statistics are of great value in many thanas, and will soon be so universally.” The Magistrate of *Puri* says that from personal enquiries he believes that on the whole the registration of deaths is satisfactory, that practically all deaths of adults are reported, and that it is only in the case of infants that omissions take place. The Magistrate of *Bhagulpore* is of opinion that registration in his district is “efficient.”

5. The usual measures, as detailed in my previous reports, were adopted by this Office and by the local Officers for the improvement and extension of registration. They need not be recapitulated here; but I am bound to mention that there is much evidence to show that the subject received added attention from many of the Magisterial, Police, Municipal, Medical and Vaccination Officers. The following special steps, worthy of record, were taken in this direction.

The memorandum book or *hath-chitti* system—a description of which has been given on page 6, paragraph 15 (4) of this Department Report for the year 1876, was adopted in the *Dacca* and *Faridpore* districts, and in the *Narain-gunge* town. The *hath-chittis* are coming into more general use, and I believe that this machinery tends to systemize registration, and consequently to improve it, and that these ends will be more completely attained if their utilization is authoritatively rendered compulsory everywhere.

During the year, under the orders of Government, most of the Municipalities relieved the Police of the duty of registration and made their own arrangements for conducting the work, several entertaining especial establishments, and the others getting the work done through the agency of the Commissioners, or of existing municipal subordinates. It is hoped that this arrangement will have the effect of improving registration.

Monghyr.—Colonel Ramsay's scheme for improving registration, detailed in paragraph 8 of this Department Report for 1885, continued to be worked in this district as actively and with the same care as during the preceding

year, with manifest advantage. The number of deaths registered is certainly smaller, but this is ascribed to the general health of the district having been better, as there was a reduction of mortality from *all* the chief diseases, particularly cholera. Colonel Ramsay is inclined to think that now about 95 per cent. of the deaths that do actually occur are recorded; but in order to maintain efficiency, he asks that steps be adopted to bring pressure to bear on individual defaulters, or, in other words, that a Compulsory Registration Act be introduced into the district. The great and sudden increase in the number of deaths registered in 1885 gave rise to suspicion of falsification. The Magistrate therefore directed the Sub-divisional Officers and others, and Colonel Ramsay himself, to test the figures as much as possible. The Officers of the Vaccination Department were also requested to do the same. The result was that many omissions were detected, but no wilful falsification of the returns for the mere purpose of obtaining good results. It would be useful, for general information, to record here the manner in

Beat number.	Number of Houses.	Number of Deaths reported.	Average number of Deaths per 100 Houses.
1	1,689	202	17.28
2	1,479	386	26.14
3	2,106	338	15.57
4	1,958	310	15.82
5	1,861	353	18.96
6	1,533	249	16.24
7	1,490	241	16.17
8	1,624	242	14.90
9	1,437	240	16.72
10	1,344	204	15.14
11	1,855	344	18.54
12	1,862	373	20.03
13	2,379	464	19.50
14	1,506	179	11.88
Station Total	24,613	4,323	17.56

Abstract of above table.

By 270 Chowkidars	4,323 deaths in 24,613 houses	...	17.56
.. 100	1,008 .. in 10,280	..	9.80
.. 35	236 .. in 3,096	..	7.64
.. 15	70 .. in 1,528	..	4.58

Average per 100 houses.

good one, as, reckoning five persons to a house, the death-rate is over 35 per mille. Colonel Ramsay truly says, "it is one thing to say that death registration is defective, and to reiterate orders to be more careful to do better in future, and quite another to be in a position to pounce down on and make an example of continuously disobedient careless men for the benefit of the others."

Colonel Ramsay's scheme of registration was introduced this year into the *Gya* district, with, it is said, great advantage, fifty-eight village chowkidars having been prosecuted for neglect.

Plans having the same end, but differing somewhat in details, were introduced into the *Bankura* and *Hughli* districts. In the former Mr. Gouldsbury, the District Superintendent of Police, made it a rule that each chowkidar shall on the day of his attendance at the thana or outpost, be examined as to the deaths which occurred in his village, thus reducing the work to a system. This plan is said to have worked well. In the latter a system of chowkidari parade was adopted which, it is reported, has effected a decided improvement in registration. The chowkidars are paraded daily at each police-station and outpost, when either the Sub-inspector, Head-constable, or the Writer-constable reads out a set of questions on police matters. The first question asked relates to death reports, and the answers of the chowkidars are then and there taken and entered in the Register of Deaths. The advantages of this system are that the attendance of the chowkidars at the stations is systemized and made regular, and a feeling of responsibility is entertained by them with regard to death reporting.

In the *Pubna* district, in addition to the reports received through the chowkidari agency, the school Sub-inspectors, Sub-deputy collectors and Canoongoes were required to note, during their tours, all deaths which occurred in the villages visited by them, and to enter them in a register kept in the Magistrate's office. This register is compared with the registers kept up in the registering circles, and much accuracy in registration is thus secured.

6. The improvement in registration which has taken place during recent years may now entitle the statistics to be considered as a basis for approximately estimating the health condition of the people over large areas, but by no means permit us to declare limited areas or registering circles to have a more or less established health status. Cholera and small-pox, being subjects of special report, escape notice less frequently than other diseases, and fatal bowel-complaints become associated with the former, while measles and fevers with eruptions are often classed with the latter. For fever many inflammatory diseases attended with febrile symptoms will always be substituted by the ignorant. Perhaps the largest omissions in differential registration, however, occur with regard to deaths from the general diseases which come under the nondescript term "other causes," although in this direction improvement is also seen. It is very difficult to secure a correct diagnosis of the death causes owing to the paucity of qualified medical practitioners in the rural areas of the Province. The appointment of Medical Inspectors under the provisions of the Local Self-Government Act will, I hope, partially meet this want. Dr. Dutt, the Civil Surgeon of Rungpore, suggests that now that numbers of native doctors and medical practitioners have established themselves in most districts, it would answer the purpose if their services were enlisted in the matter in selected areas placed under their charge under a proper reward system. A scheme like this will, the Magistrate correctly observes, require a special establishment; but he adds that so long as this, or any measure akin to it, is not adopted, it will be impossible to arrive at a proper knowledge of the prevalent diseases, and to exercise a proper control over them. But the first and most important thing of all is to obtain a knowledge of the actual number of deaths which do occur.

7. The provisions of this Law were extended during the year to the 31 towns named in the margin, and preliminary steps were taken for its introduction into several others during the current year. Excluding the latter, which will be noticed in next year's Report, the Enactment was in operation at the close of 1886 in 148 Towns and one Rural area in Darjiling. It should also be mentioned that, in order to assist the working of the Compulsory Vaccination Act V (B.C.) of 1880, the registration of births was, under orders of Government No. 1598T—M, dated the 2nd September 1886, *revived* in 51 towns, in which, although the Registration Act was in force, the recording of births had been discontinued under the Resolution of Government of the 20th August 1880. The subjoined statement showing the Towns in which prosecutions for breaches of the provisions of the above-mentioned law relating to the registration of births and deaths were instituted with the results, is submitted in accordance with the orders of Government on the subject:—

Bogra ...	} In Bogra.	Kushtea ...	} In Nuddea.
Sherpore ...		Birnagpur ...	
Dinajpur ...	} In Nuddea.	Nuddea ...	
Dainhat in Burdwan.		Chogdah ...	
Balli in Howrah.	} In Sonthal Per-	Mohespore in Jessore.	
Baranagore.		Dumka ...	
Rajpore ...	} In Sonthal Per-	Rajachal ...	
Barripore ...		Sahelgunge ...	
Busrhat ...	} In Monghyr.	Burhea ...	
Joynuggur ...		Shaikpura ...	
Taki ...	} In Cuttack.	Jajpore ...	
Baduria ...		Kendrapara ...	
Goberdanga ...	} In Khulna.	Ranchi in Lohardugga.	
South Dum-Dum ...		Purulia in Manbhum.	
Satkhira ...	} In Khulna.		
Chanduria ...			
Debbhatta ...			

ation Act V (B.C.) of 1880, the registration of births was, under orders of Government No. 1598T—M, dated the 2nd September 1886, *revived* in 51 towns, in which, although the Registration Act was in force, the recording of births had been discontinued under the Resolution of Government of the 20th August 1880. The subjoined statement showing the Towns in which prosecutions for breaches of the provisions of the above-mentioned law relating to the registration of births and deaths were instituted with the results, is submitted in accordance with the orders of Government on the subject:—

Districts.	Towns.	Number prosecuted.	Number convicted.	Number acquitted.	Number struck off.	Number warned.	Number pending.	Amount of fines realised.	RATIO PER 1,000 OF POPULATION.	
									Births.	Deaths.
Burdwan ...	Burdwan ...	3	3	...	...	...	...	Rs. A. P.	22'30	25'93
	Ranigunge ...	24	22	...	...	...	...	0 11 0	Not yet registered.	23'40
	Dainhat ...	1	1	...	...	...	...	25 8 0	Ditto,	25'78
Bankura ...	Bishenpore ...	1	1	...	...	...	...	0 4 0	22'24	17'52
	Suri ...	2	1	1	...	...	...	0 8 0	Not yet registered.	17'20
Birbhum ...								Not stated		

Districts.	Towns.	Number prosecuted.	Number convicted.	Number acquitted.	Number struck off.	Number warned.	Number pending.	Amount of fines realised.	Ratio per 1,000 of Population.	
									Births.	Deaths.
								Rs. A. P.		
Midnapore ...	Midnapore ...	6	2	2	...	...	2	0 0 0	15'40	21'54
	Tumuk ...	11	10	1	...	...	...	1 3 0	Not yet registered.	21'01
	Ghattal ...	3	3	...	...	...	...	1 6 0	Ditto.	11'78
	Chundrakona ...	4	4	...	...	...	...	3 0 0	Ditto.	20'07
Hughli ...	Hughli and Chinsurah ...	27	24	3	...	...	...	15 6 0	21'77	30'83
	Serampore ...	13	9	2	...	...	...	5 0 0	28 88	43 83
	Uttorpara ...	3	2	...	...	...	...	0 6 0	21'08	19'78
	Bansberia ...	11	8	3	...	...	...	2 0 0	Not yet registered.	34'56
Howrah ...	Howrah ...	8	7	1	...	...	...	7 0 0	21'49	22'63
	Baranagore ...	17	12	4	1	...	...	6 6 0	Not yet registered.	29'45
24-Pergunnahs ...	South Suburban ...	6	2	...	2	...	2	1 8 0	Ditto.	11'76
	Rajpore ...	5	5	...	...	...	...	1 4 0	Ditto.	12 19
	North Dum-Dum ...	12	12	...	...	...	...	7 8 0	Ditto.	34'33
	South ditto ...	2	2	...	...	...	...	1 0 0	Ditto.	15'46
	North Barrackpore ...	35	23	8	4	...	...	13 8 0	Ditto.	31'08
	Naihati ...	7	5	...	2	...	...	8 0 0	Ditto.	25'30
	Busrhat ...	5	4	1	...	...	...	1 13 0	7'92	10'75
	Baduria ...	9	1	...	...	...	8	1 0 0	Not yet registered.	11'49
Nuddea ...	Goberdanga ...	1	1	...	...	...	...	0 8 0	Ditto.	30'06
	Kishnaghur ...	2	2	...	...	...	...	0 9 0	19'79	21'25
Jessore ...	Santipore ...	9	...	0	...	...	...	...	11'92	10'27
	Jessore ...	2	1	1	...	...	...	1 0 0	5'88	22'24
Murshidabad ...	Kotechandpore ...	7	7	...	...	...	...	12 0 0	Not yet registered.	38'99
	City Murshidabad ...	15	8	4	...	...	3	6 0 0	Ditto.	46 31
Rajshahye ...	Jungipore ...	2	2	...	...	...	...	1 2 0	Ditto.	28'56
	Beaulah ...	1	1	...	...	...	...	0 8 0	27'48	27'03
Darjiling ...	Natore ...	2	1	...	...	...	1	0 2 0	Not yet registered.	29'57
	Darjiling ...	1	1	...	...	...	...	0 8 0	8'02	19'03
Dacca ...	Dacca ...	23	21	1	...	...	...	15 3 0	16'26	22'30
	Nuraungunge ...	16	14	...	...	...	...	22 12 0	25'18	31'52
Faridpore ...	Faridpore ...	7	6	1	...	...	...	3 4 0	8'67	32'83
Chittagong ...	Chittagong ...	1	1	...	...	...	...	1 0 0	23'40	21'23
Tipperah ...	Comillah ...	2	2	...	...	...	...	0 8 0	28'35	28 86
	Brahmanberia ...	15	15	...	...	...	...	6 2 0	32'94	36'98
Patna ...	Behar ...	15	15	...	...	...	...	5 0 0	19 54	12'84
Shahabad ...	Dumraon ...	3	2	1	...	...	...	1 0 0	Not yet registered.	28'08
	Buzar ...	3	2	...	...	...	...	1 8 0	Ditto.	29'43
Mozufferpore ...	Hajipore ...	11	11	...	...	...	...	8 8 0	Ditto.	21'83
	Lalgunge ...	...	6	...	...	...	...	3 0 0	Ditto.	23'83
	Sitamurhi ...	...	4	...	...	...	...	1 1 0	30'20	26'77
Durbhanga ...	Durbhanga ...	17	15	2	...	...	...	4 6 0	28'16	24'40
	Madhubani ...	2	2	...	...	...	...	0 4 0	Not yet registered.	13'43
Sarun ...	Chupra ...	1	...	...	...	...	1	.....	12'75	14'42
	Sewan ...	1	...	1	...	...	...	.....	27 35	36'97
Chumparun ...	Motihari ...	23	21	...	2	...	...	15 4 0	Not yet registered.	25'32
Monghyr ...	Monghyr ...	216	109	73	34	...	...	64 12 0	29'84	25'81
	Jamunipore ...	6	5	1	...	...	...	4 6 0	43'72	51'77
	Jamue ...	1	1	...	...	...	...	0 4 0	Data not available.	
Bhagalpore ...	Bhagalpore ...	204	138	15	20	23	8	69 12 0	30'54	35'68
	Colgong ...	1	1	...	...	...	...	0 8 0	Not yet registered.	21'86
Purneah ...	Purneah ...	7	2	...	...	...	5	1 4 0	15'51	32'03
Maldah ...	Old Maldah ...	1	...	...	...	...	1	.....	Not yet registered.	23'67
Cuttack ...	Cuttack ...	35	30	4	...	...	1	19 6 0	18'87	15'58
	Jajpore ...	2	...	...	...	...	2	.....	10'14	19'67
Hazaribagh ...	Hazaribagh ...	61	69	12	...	...	...	8 12 0	10'78	12'15
	Chattra ...	35	34	1	...	...	...	40 0 0	Not yet registered.	30'92
Total ...		894	716	154	67	23	34	424 3 9	.....	.....

This is a much more extended list than that submitted last year. It shows that 894 persons against 481 in 1885 were prosecuted in 61 against 43 towns; that of this number, 716, or 72 per cent., against 298, or 62 per cent., were convicted; and that the fines imposed on, and realised from, defaulters amounted to Rs. 424 against Rs. 202. This comparison affords proof of progressive

improvement in the application of the law. Nevertheless, it does not appear to be yet fully utilised. Conspicuous and regretful examples of this were seen in the towns named in the margin, where the law has been sufficiently long in force, and some of which are important Sudder Towns. In Patna, the conservancy Jemadars furnish weekly returns of births and

Suburbs of Calcutta.
Bankura.
Ranaghat.
Meherpore.
Comercolly.
Jamalpur in Mymensing.
Gya.
Daudnuggur.

Tikari.
Arrah.
Mozufferpore.
Itvilgunge.
Deoghur.
Barrah.
Patna.

deaths, which are checked by the Overseers and Sub-overseers. This, although a well-meant endeavour to promote registration, does not appear to me a very good arrangement, as sweepers are not the class of men who, by education or otherwise, can intelligently and correctly perform such work. In the Municipalities in Nuddea the Commissioners have taken the responsibility of the duty on themselves, and have appointed officers to collect the statistics, instead of compelling the people to report them. On the other hand, the systematic application of the law has resulted in the detection in the Municipalities of Ranigunge, Hughli, North Barrackpore, Dacca, Naraingunge, Motihari, Monghyr, Bhagulpore, Cuttack, Hazaribagh and Chattra of a comparatively large number of evasions by the people to register the events; in the tea-planters in Darjiling having become more alive to punctual reporting of deaths occurring in their Estates, although many of them still remain unreported by the chowkidars specially appointed for this duty; in the adoption of steps in the Midnapore town to give one-fourth of the fines levied for evasions under the Act to persons reporting them.

8. The principal revisions under this head made during the year consisted of, (1) the abolition of Mokameh in Patna as a township, and its amalgamation with the rural area of the same name; (2) the absorption of the separate rural registering area of Rajarampore with that of Dinajpur; (3) the re-appearance in the Report of this year of Patna town as a registering circle, the separate exhibition of the statistics of which had to be omitted from the Report of 1885 owing to some misapprehension of its population, which was settled only in the latter part of that year; and the creation of a Municipality in Khulna and the exhibition of its statistics separately. These changes involved an increase of 132,523 in the population of the urban registration circles, with a corresponding decrease in that of the rural circles, but did not affect the total population of the Province.

BIRTH STATISTICS.

9. The returns show that, eliminating 1,164 still-births, there were born during 1886, in the 45 Municipalities in which records of the events were kept up, 34,734 children, in a population estimated at 1,650,855, being at the rate of 21.04 per 1,000, against 24.71 per 1,000 during the preceding year. The death-rate in the same Municipalities amounted to 28.68 per 1,000. There was thus an excess of deaths over births of 7.64 per every 1,000 of the population. This is a lamentably defective record, and consequently detailed comment on it is futile.

10. Of the number born during the year, 18,330 were boys and 16,404 girls, and the relative proportions which these figures bear to population and to sex distribution are—male births 11.10 per 1,000, female births 9.93 per 1,000; and male to female births 1,117 per 1,000. The corresponding proportions of the preceding year were 13.17, 11.53, and 1,142 respectively. The only noticeable feature in these results is that there was a fair improvement in the rate of male to female births recorded, the English proportion for the decade ending 1884 being 1,038 males born to every 1,000 females born.

11. The relative proportions in which the events occurred among the different Classes or Nationalities which compose the population of the towns under notice, are exhibited marginally. If there is any value attaching to these figures, it appears that the birth-rate was, as in former years, highest among the Christians and lowest among the Hindus, the

Births according to Class or Nationality.		
	Number of Births.	Ratio per mille.
Christians	454	25.81
Hindus	24,207	20.92
Mahomedans	10,000	21.26
Buddhists	10	4.72
Other classes	63	15.79

Mahomedan rate taking an intermediate position, the other denominations being eliminated.

12. Examining the returns in detail, it is found that the undermentioned Municipalities claim notice as having approached nearest to the truth with reference to proportions born per 1,000 of population, to relative proportional distribution of the sexes born, and to the relation which births bear to deaths:—

Highest proportions of Births.		Males born to every 1,000 Females born.		Excess of Births over Deaths.	
	Ratio per mille.		Ratio.		Rate of excess per mille.
Jamalpore in Monghyr	... 43·72	Hughli and Chinsurah	... 1,021	Jamalpore in Monghyr	... 11·95
Bettiah	... 39·74	Kendrapara	... 1,028	Bettiah	... 8·56
Revilgunge	... 33·05	Howrah	... 1,056	Behar	... 6·70
Brahmanberia	... 32·94	Burdwan	... 1,067	Bishenpur	... 5·22
Bhagulpore	... 30·54	Chittagong	... 1,071	Revilgunge	... 5·12
Sitamurhi	... 30·20	Bettiah	... 1,076	Bankura	... 4·27
Gya	... 29·70	Beaulah	... 1,076	Monghyr	... 3·83
Monghyr	... 29·64	Cuttack	... 1,086	Durbhanga	... 3·67
		Durbhanga	... 1,096	Sitamurhi	... 3·43
		Balli	... 1,096	Cuttack	... 3·29
		Bhagulpore	... 1,099	Purulia	... 2·26
				Chittagong	... 2·26
				Utterpara	... 2·18
				Santipore	... 1·65

13. Returns of the events under this head were received from Government for only the three first quarters of the year under review. From them it appears that, 407 births were recorded, distributed into 220 males and 187 females.

DEATH STATISTICS.

14. The total population of the Province among whom the mortuary statistics considered in this Report were registered, was the same as in the preceding year, viz., 66,163,884. Its distribution into sex, class or nationality, and areas of residence, are detailed in the margin. The main registering circles in which the events were recorded numbered 645, divided into 93 urban and 552 rural areas.

15. Of the population above quoted, 1,455,305, excluding 25,551 who were born lifeless, died from the diseases which were reported to have prevailed in the Province. These deaths distributed over the population indicate that the casualty-rate of the year under review was 21·99 per 1,000, which, contrasted with the rates of anterior periods, show a diminution of mortality to the extent of ·75 per 1,000 in comparison with that of 1885, but an increase of 1·64 per 1,000 with that of the lustrum 1881-85.

16. The information under this head will be gathered from the marginal figures. They indicate that in comparison with the results of 1885 there was a decrease of mortality in both circles, amounting to 4·34 and ·63 per 1,000 of population respectively; but that in contrast with those of the quinquennium 1881-85, while the urban circles exhibit a reduction of 2·78 per 1,000, the rural circles show an increment of 1·81 per 1,000; and that the experience of the entire period, 1881 to 1886, tends to the inference that the urban circles are on the whole more unhealthy than the rural, it being assumed that

		URBAN CIRCLES.		RURAL CIRCLES.	
		Deaths.	Ratio per mille.	Deaths.	Ratio per mille.
In 1886	...	65,773	27·29	1,389,532	21·79
" 1885	...	72,024	31·63	1,432,721	22·42
" 1881-85	...	72,460	30·07	1,274,372	19·98

better registration in the former circles does not wholly account for the *large* difference between the casualty-rates.

17. Mortality from the Specific Death Causes.

The marginal table affords information with regard to the fatality of the

	PROPORTION OF DEATHS PER 1,000 OF POPULATION.								
	In 1880.			In 1885.			In 1881-85.		
	Urban.	Rural.	Provinces.	Urban.	Rural.	Provinces.	Urban.	Rural.	Provinces.
Cholera ...	4.12	1.70	2.77	5.22	2.53	2.02	4.08	1.91	1.99
Small-pox ...	.08	.08	.06	.33	.14	.14	.53	.21	.23
Fevera ...	13.29	16.11	15.97	14.40	15.79	15.75	15.08	14.40	14.48
Bowel-complaints.	3.77	.73	.84	4.12	.85	.90	3.79	.78	.89
Injury ...	.50	.48	.48	.50	.49	.49	.42	.30	.30
Other causes ...	6.61	2.74	2.85	7.02	2.60	2.81	6.13	2.24	2.38
ALL CAUSES ...	27.20	21.79	21.99	31.03	22.42	22.74	30.07	19.98	20.35

diseases as they are usually grouped, in comparison with the figures of the preceding year and of the immediately preceding lustrum. It shows that on the whole there was, in comparison with both the periods, decline of mortality from cholera, small-pox and bowel-complaints, noticeably so from cholera,—and that there was an increase from fever and “other causes,” “injury” being in excess only over the rate of the 1881-85

quinquennium. With regard to fever, however, an important fact is disclosed by the figures of 1885 and 1886, and that is that the whole of the increase of mortality from it occurred in the rural circles, the urban circles exhibiting a very marked decrease. This indicates that these circles enjoy superior health so far as this disease is concerned, due, apparently, to the observance in them, to a greater extent, of sanitary precautions.

18. Mortality in Bengal, Behar, Orissa and Chota Nagpore.

	RATIO PER MILLE OF POPULATION.					
	In 1880.			In 1886.		
		Difference as compared with 1881-85.			Difference as compared with 1881-85.	
Cholera.			Fever.			
Orissa ...	4.19	.23 I	Bengal ...	17.15	.54 I	
Bengal ...	2.17	.06 I	Behar ...	16.03	3.19 I	
Behar ...	1.11	.64 D	Chota Nagpore ...	12.85	.63 I	
Chota Nagpore ...	.50	.38 D	Orissa ...	8.02	.92 I	
Small-pox.			Bowel-complaints.			
Orissa ...	.21	.03 D	Orissa ...	2.81	.24 D	
Behar ...	.11	.16 D	Chota Nagpore ...	.85	.38 D	
Chota Nagpore ...	.02	.16 D	Behar ...	.72	.10 D	
Bengal ...	.01	.00 D	Bengal ...	.70	.03 I	

The information under this head is exhibited in the margin in the order of relative severity of the diseases. It is seen that Orissa stands foremost in mortality from cholera, small-pox and bowel-complaints, and Bengal in that from fever; and that cholera is least fatal in Chota Nagpore, small-pox and bowel-complaints in Bengal, and fever in Orissa.

19. The seasonal severity of the diseases which prevailed in the Province

Seasonal incidence of the Diseases.

	Deaths in 1880.	Deaths in lustrum 1881-85.
First quarter ...	319,583	307,499
Second „ ...	304,632	313,193
Third „ ...	327,293	318,381
Fourth „ ...	603,857	412,759

is again seen to follow the law which governed its incidence during past years, inasmuch as the fourth quarter of the year again produced the greatest number of fatal results, as illustrated in the

margin.

20. Of the sexes who died, 781,385 were males and 673,920 females, the

Mortality according to Sex.

death-rate in relation to the sex population being respectively 23.79 and 20.21 per 1,000 against 22.29 and 18.44 per 1,000 during the quinquennium 1881-85. The proportionate death-rate of males to every 1,000 females amounted to 1,159 in opposition to 1,190 during the lustrum 1881-85. The mean English proportion for the years 1838-85 was 1,017. It will be seen from these figures that during the entire period under consideration the male deaths constantly exceeded the female, and that in Bengal the comparative male mortality is much larger than in England.

21. *Mortality according to Age.*

		<i>Ratio per mille of population according to Age.</i>	
		<i>In 1886.</i>	<i>In 1882-85.</i>
Under 1 year	...	138.11	106.48
1 to 5 years	...	26.36	22.47
50 to 60 years	...	30.71	30.65
60 years and above	...	51.79	48.50
Mean for adults	...	14.85	14.90

This information, as presented in the margin, indicates that the mortality except in the case of adults, was greater than during 1882-85, considerably so with regard to infants and children; but I consider this increment to be simply a sign of improving registration.

22. *Mortality according to Class or Nationality.*

The events as they occurred among the different classes of the community

		<i>Ratio per mille of population according to Class.</i>	
		<i>In 1886.</i>	<i>In 1881-85.</i>
Christians	...	13.88	13.14
Hindus	...	21.99	20.24
Mahomedans	...	22.54	20.94
Budhists	...	13.34	8.94
Other denominations	...	15.88	16.27

composing the population dealt with in this Report are shown marginally. The inferences to be drawn from the figures are that, of the chief nationalities, the Christians suffered the least, and the Hindus and Mahomedans almost equally during the entire period 1881 to 1886.

23. For the reason furnished in paragraph 13, this record represents the

Deaths of Non-Asiatics and Mixed Races.

mortality of only the three first quarters of 1886. It shows that 519 deaths (males 355 and females 164) were reported from among these classes, and that, excluding small-pox, from which no casualties occurred, 29 fell victims to cholera, 93 to fevers, 68 to bowel-complaints, 45 to injury, and 284 to other causes.

24. *Vital Statistics of Calcutta compared with those of the Bengal Towns.*

		<i>Calcutta</i>	<i>Bengal towns.</i>
		<i>Ratio per mille.</i>	
Births	...	18.06	21.04
Mortality from All Causes	...	26.12	27.29
" Cholera	...	4.01	4.12
" Small-pox	...	.03	.08
" Fevers	...	7.89	12.29
" Bowel-complaints	...	2.90	3.77
" Injury	...	.58	.50
" Other causes	...	10.47	6.51

These statistics are exhibited in the margin, and indicate that the returns of the Bengal towns do not compare unfavourably with those of Calcutta. With regard to deaths from diseases coming under the head of "other causes," Calcutta shows a large excess from causes explained in previous reports.

25. In the nine Cantonments

Mortality of Natives in Cantonments.

		<i>Ratio per mille.</i>			<i>Ratio per mille.</i>
Dorunda	...	29.82	Dum-Dum	...	13.97
Alipore	...	26.85	Barrackpore	...	12.88
Dinapore	...	26.77	Darjiling	...	11.52
Fort William	...	20.66	Buxa	...	10.08
Cuttack	...	18.21			

in Bengal which were occupied by troops during the year under review, there died 33 Natives, being at the rate of 21.42 per 1,000 of their population estimated at 34,211, against 21.49 per 1,000 in the preceding year. The mortality in each Cantonment stood as indicated in the margin, and was caused by cholera at the rate of 2.60 per 1,000 of population against 1.09 per 1,000 in 1885, small-pox at .02 against no deaths, fever 10.63 against 12.09, bowel-complaints 2.68 against 1.92, injury .43 against .62, and other causes 5.02 against 5.76. These statistics indicate that while the death-rates from cholera and bowel-complaints were higher—particularly from cholera—those from fever and the maladies grouped under the head of "other causes" were lower—conspicuously from fever; and that, on the whole, the Cantonments were as healthy as during the preceding year.

26. During the year under review 23,696 *European Seamen* entered the PORT OF CALCUTTA—Vital Statistics of—Port of Calcutta in 1,036 vessels, against 21,449 in 948 vessels during the preceding year. The daily Sickness and mortality among *European Seamen* average number present in Port was 2,326. This average is the highest on record, and was due to a larger number of vessels entering into, and staying longer in, Port—the latter owing to lowness of freight. The statistics representing the sickness and mortality which occurred among the European seamen are exhibited in the subjoined table, contrasted with the outcome of the preceding year:—

SICKNESS.	In 1886.				In 1885.			
	Admissions into Hospital.	Deaths.	Ratio per cent. of Deaths to treated.	Ratio per 1,000 of Population.	Admissions into Hospital.	Deaths.	Ratio per cent. of Deaths to treated.	Ratio per 1,000 of Population.
<i>In Hospital.</i>								
Cholera	49	26	53'06	11'17	16	7	43'75	4'13
Diarrhoea	185	.....	.....	.....	102	.....	.....	.....
Dysentery	106	8	2'83	1'28	116	6	5'17	3'54
Fever, enteric	13	4	33'33	1'72	4	1	25'00	'60
" malarious	321	3	'93	1'29	194	2	1'03	1'18
" simple	155	.....	.....	.....	344	.....	.....	.....
Scurvy	7	.....	.....	.....	13	.....	.....	.....
Small-pox ... ..	.....	.....	.....	.....	3	.....	.....	.....
Sunstroke or heat apoplexy	4	1	25'00	'43	5	3	60'00	1'77
Other diseases	1,875	34	1'81	14'61	1,179	21	1'78	12'40
Total	2,714	71	2'61	30'52	1,976	40	2'02	23'62
<i>Out of Hospital.</i>								
Cholera ... ..	.....	1	.....	'43	.....	1	.....	'59
Dysentery ... ..	.....	1	.....	'43	.....	.....	.....	.....
Sunstroke ... ..	.....	5	.....	2'15	.....	1	.....	'59
Fever, malarious ... ..	.....	1	.....	'43	.....	.....	.....	.....
Drowned in Port ... ..	.....	15	.....	6'45	.....	9	.....	5'31
Other diseases ... ..	.....	11	.....	4'73	.....	1	.....	'59
Total ... ..	.....	34	.....	14'62	.....	12	.....	7'08
GRAND TOTAL	2,714	105	2'61	45'14	1,976	52	2'02	30'71

The following deductions may be made from these figures, viz. that—eliminating diarrhoea, from which no deaths, as in the preceding year, occurred; small-pox, which was entirely absent; simple fever, which had diminished greatly and did not, as in the preceding year, prove fatal; and scurvy, which similarly caused no loss of life during both the years under notice, and exhibited a satisfactory reduction in number admitted into hospital—there occurred some decline in the prevalence of dysentery, attended by a noticeable diminution of mortality, against a very considerable increase both in the number attacked by, and in the deaths from, cholera; a marked accession of admissions into hospital and of mortality from enteric fever; a large addition to the number treated for malarious fever, although the fatal result from this cause was not heavy contrasted with the augmented incidence of the disease; an increase in the number who succumbed to sunstroke or heat-apoplexy, taking the mortality out of hospital into account; and much increase in the number of admissions into hospital for, and of deaths from, the various maladies grouped under the head of "other diseases." The mortality *out of hospital* was also considerably greater: so much so as to enhance the hospital death-rate (30'52 per 1,000 of average strength) to 45'14 per 1,000, which is the total death-rate of the year, the casualties from drowning, 15 in number, taking a conspicuous part in the increment.

I agree with the Health Officer in considering the year under review to have been as favourable a one as the preceding year, if cholera is excluded

YEARS.	Average strength.	RATIO PER MILLE OF AVERAGE STRENGTH.		
		Cholera.	Other diseases.	Total.
In 1886	2,326	11'17	19'3	30'5
In 1885	1,693	4'13	19'4	23'6
" 1884	1,684	21'8	23'7	45'1
" 1883	1,860	10'8	23'6	43'5
" 1882	1,792	22'8	28'0	51'8
" 1881	1,350	24'0	24'0	48'0

from the reckoning, for then the mortality from the other death causes stands at 19'35 per 1,000 of average strength as opposed to very nearly the same ratio—19'49—in 1885. Extending the examination further, it is very satisfactory to find—*vide* marginal figures—that 1886 was much healthier than any year embraced in the quinquennium 1881-85, as regards mortality from diseases other than cholera, and that cholera itself was markedly less fatal than during any of those years, 1885 excepted.

27. The official logs show that 41 deaths of Europeans occurred at sea, viz. 29 from drowning and other accidents, 3 from heat-apoplexy, 2 from fever, and the remainder from constitutional and local diseases.

28. This information is furnished in the marginal table. The record is manifestly defective, but taking it as it stands, it appears that, on the whole, there was no unusual mortality among the *Native Floating Population*, estimated at 25,409, and consisting of the crews of inland steamers and flats, of sea-going vessels, of Arab and Turkish vessels, of Maldivian crafts, of country boats (whose number fluctuates according to the season of the year), and of cargo and passenger boats. Simple fever proved fatal this year while it was not so in 1885, and there was a small increase

Sickness and mortality among the *Native Floating Population*.

SICKNESS.	In 1886.				In 1885.			
	Total Deaths among Native Floating Population.	Ratio of Deaths per 1,000 of Population.	Number of Native Floating Population who entered Hospital.	Deaths among this number.	Total Deaths among Native Floating Population.	Ratio of Deaths per 1,000 of Population.	Number of Native Floating Population who entered Hospital.	Deaths among this number.
Cholera ...	59	2.32	37	22	50	2.38	25	14
Diarrhoea ...	2	.07	2	1	...	...	11	...
Dysentery ...	2	.07	2	1	...	...	5	...
Fever—malarious ...	1	.03	10	...	12	.47	24	...
—simple ...	15	.59	...	...	...	...	...	...
Small-pox ...	...	...	...	...	...	...	...	...
Other diseases ...	23	.90	101	7	25	.98	129	10
Total ...	102	4.01	108	31	103	4.05	197	31

in malarious fever mortality, and little variation in the death-rates from all the other diseases. Cholera proved fatal at precisely the same low rate as in the preceding year—in fact lower than during any year since 1880.

29. The total number of seamen of this class who arrived in Port was 29,595, and the total who left Port numbered 28,994. The corresponding figures of the preceding year were 28,131 and 27,847, indicating an increase in both the arrivals and departures. The deaths at sea amounted to 30, which, calculated on the average strength afloat (8,405), yields a death-rate of 3.56 per 1,000 against 4.28 per 1,000 in the preceding year. Of these casualties, 13 were caused by drowning and injury. The regulations for the treatment of this class of seamen appear to have been properly complied with in all cases but one. The exception was that several of the crew of a vessel from Muscat were found to be suffering from scurvy caused, it was ascertained, from vegetables not having been served out to the men, the excuse being that great difficulty is experienced in procuring them in Muscat. Compensation was given to the crew.

30. The belief entertained by the majority of the local officers, based on general observation, public opinion, the statistics, &c., is that the year under review was more healthy than 1885. Of the 45 districts in the Province, one (Burdwan) was pronounced to have enjoyed exceptionally good health, and 31 average, good or fair health. Of the rest of the districts, one (Hughli) had indifferent health, and only 12, named in the margin, were said to have experienced markedly bad health. The chief cause of

General Health of the Province.

Rungpore.	Dacca.
Shahabad.	Nudden.
Jalpaiguri.	Backergunge.
Pubna.	Puri.
Dinajpur.	Balasore.
Monghyr.	Rajshahye.

the healthiness of the year was the greatly mitigated severity with which cholera and small-pox prevailed, the latter disease presenting a very remarkable diminution. On the other hand, in the districts cited above in the margin, the reason of their unhealthiness was attributed to excessive prevalence of cholera, or

Number of districts in which the agricultural outturn was—					Number of districts in which the prices for food-grains were—			Number of districts in which the value of labour was—		
Above average.	Good.	Fair.	Equal.	Below average.	Higher.	Lower.	Same.	Higher.	Lower.	Same.
23	8	1	9	4	6	30	9	5	2	38

fever, or both. It should, however, be mentioned that, although the fever mortality was higher than during any past year, the opinion largely shared in locally is that improving registration had no small share in causing an increase in the number of the deaths. No truer indication can be quoted to show that the year was a healthy one than the great fall

	Prices per maund in 1886.	Average prices of the three preceding years.	Difference in 1886.	Prices per maund in 1885.	RAINFALL.	
					In 1886.	Average of preceding years.
	Rs. A. P.	Rs. A. P.	A. P.	Rs. A. P.	Inches.	Inches.
Common rice ...	2 1 8	2 5 2	3 11 D	2 2 7	72.73	64.27
Wheat ...	3 15 3	3 9 6	5 9 I	3 7 3		
Pulses ...	2 5 5	2 7 8	2 3 D	2 7 0		
Fish ...	7 4 11	7 3 1	1 10 I	7 10 2		

in the number of deaths in the Monghyr district in spite of the energetic and careful supervision accorded to registration by Colonel Ramsay. Another fact which accounts for the improved health condition of the people is the generally very satisfactory harvest associated with very favourable ruling prices for food-grains—*vide* illustrative tables in the margin. The bountiful

harvest afforded ample field work to the people. It was due to the generally abundant, seasonal, and well-distributed rainfall of the year, aided, in some districts, by the fertilisation of soil following the great inundations of the preceding year. There were exceptions to the favourable conditions above set forth, but they were not many and do not call for circumstantial detail; but there is, however, one fact deduced from the jail statistics, associated with the health status of the people, which should be noticed. It is that, of the prisoners admitted into jail and into the jail hospitals, a very large number is in bad or indifferent health, and that the greater proportion of the jail mortality occurs among these men. This affords an unmistakable indication of the low standard of health of the outside population, generally induced, no doubt, by malaria and the depressing climatic conditions of Bengal.

SECTION VI.

HISTORY OF THE CHIEF DISEASES.

CHOLERA.

31. A congratulatory fact of the year under review is the marked reduction in the prevalence and fatality of Cholera as compared with its incidence during the preceding year, or even during the preceding decade 1876-85. This observation will be found illustrated by the following statistics. In 1886 the deaths from Cholera of 118,368 persons were recorded among a population numbering 66,163,884, or at the rate of 1.78 per 1,000. In 1885, 173,767, or 2.62 per 1,000 of the population, perished from this cause, and the average mortality of the decade above alluded to was 1.93 per 1,000. The disease attacked 21,567 villages, or 9.33 per cent. of the total number of villages in the Province against 29,239, or 12.61 per cent. in 1885, and prevailed epidemically in 72 registering circles against 101, severely in 73 against 118, with much immunity in 457 against 415, and was absent from 43 against 13.

32. In the Urban Circles there fell victims to the disease 9,935 persons, or at the rate of 4.12 per 1,000 of population, and in the Rural Circles 108,433, or at 1.70 per 1,000. Contrasted with the outcome of 1885, the proportionate death-rates were lower in both Circles by 1.10 and .83 per 1,000 respectively; but in comparison with that of the quinquennium 1881-85, while there was a diminution of mortality in the latter Circles of .21 per 1,000, the former exhibited an enhancement of .04 per 1,000.

33. Exceptionally high mortality from Cholera occurred in only the nine marginally indicated districts which suffered most from Cholera.

	Ratio per mille.		Ratio per mille.
Faridpore	... 4.53	Cuttack	... 3.97
Bahsore	... 4.46	24 Pergunnahs	... 3.63
Puri	... 4.29	Shahabad	... 3.12
Nuddea	... 4.26	Dacca	... 3.01
Jessore	... 4.06		

remaining districts (19) exhibited enhancement, the excess ranging from only .01 to 2.38 per 1,000.

34. The marginal figures afford this information. The facts disclosed by them support the usual coincidence with regard to rainfall and Cholera.

	Deaths in 1886.	Rainfall in 1886.	Deaths in 1881-85.
January	... 9,800	... .17	7,264
February	... 6,172	... .09	5,103
March	... 8,755	... 2.24	10,550
April	... 18,056	... .95	21,151
May	... 9,716	... 6.76	18,432
June	... 3,585	... 10.74	12,391
July	... 4,542	... 16.30	10,071
August	... 5,234	... 15.28	11,384
September	... 4,186	... 14.87	6,616
October	... 8,054	... 4.76	6,336
November	... 16,090	... .31	9,631
December	... 21,178	... .47	12,503

Seasonal incidence of Cholera in the entire Province. The heavy inundations of 1885, which kept a portion of the Province under water to a late period, had the effect of materially reducing the usual severity of the winter prevalence of Cholera in that year, and this abatement was prolonged to January and February of the year under review. The first four months of the year had a rainfall below the average of several preceding years, but this was not followed by any marked exacerbation above the usual seasonal increase of deaths. Indeed, March, April and May have a smaller mortality than 1885, or the quinquennium 1881-85. There

was heavy rain in May, June, July, August and September attended by a very considerably diminished mortality, so much so that June to September enjoyed unprecedented immunity (*vide* the deaths in the quinquennium 1881-85); but the winter prevalence of the disease was high and culminated in severity in December, which was the worst month of the year.

35. *Cholera mortality in Calcutta and in other endemic areas.*

	TOTAL MONTHLY MORTALITY FROM CHOLERA OF FIVE YEARS 1881 TO 1885.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals for the 5 years.
Calcutta	511	588	1,353	2,381	1,341	619	326	235	231	436	786	1,039	9,845
Suburbs of Calcutta ...	727	791	1,748	2,138	1,200	633	327	232	267	507	918	1,428	10,010
Howrah Town	174	198	421	541	414	126	64	83	87	116	251	317	2,792
Burdwan Division ...	6,617	5,475	8,562	10,865	8,637	5,628	4,258	3,748	2,166	1,773	3,433	6,002	65,094
Presidency Division ...	13,066	8,221	19,729	32,003	15,432	3,378	1,440	1,212	1,003	3,813	9,956	18,179	128,331
Dacca Division	8,316	3,602	7,544	17,753	14,319	3,699	1,081	1,146	1,052	2,946	12,016	21,144	94,618

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Macpherson's Table, 26 years	7,150	9,346	14,710	19,382	13,336	6,325	3,979	3,440	3,935	6,211	8,323	8,159
Payne's Table, 13 years												
1865-76... .. Calcutta.	1,955	3,226	4,848	4,058	3,306	2,231	1,818	1,634	1,543	1,805	2,789	2,176

In examining some of the figures of the endemic area, I noticed two curious discrepancies between the Presidency, Burdwan and Dacca Divisions, and those of Calcutta, its Suburbs, and Howrah. From the table given it will be seen that in areas chiefly rural there is a distinct fall of mortality in February, while in the towns mentioned this does not occur. In Macpherson's and Payne's tables of Calcutta, there is a small diminution of mortality in December compared with November, while in the quinquennium 1881-85, the reverse is the case in all the three towns and rural tracts. Taking the later figures as the more reliable, and leaving out of consideration the November-December discrepancy, which is not observed throughout all the periods, we find a very strange difference between urban and rural mortality from this disease, of which up to this time I have seen no explanation offered. It is evident, however, that in these three towns in February there are local conditions which nullify influences which are beneficial throughout the country.

36. In obedience to the orders of Government conveyed in communication No. 2328, dated the 10th August 1886,

Influence of Meteorological conditions on Cholera prevalence.

I subjoin an abstract table showing the meteorological peculiarities which obtained during defined periods of cholera outbreaks in the Shariakandi thana in Bogra and in the town of Faridpore. Records of these observations were also kept at four other places, but they do not appear to me to be well determined, owing to their having been extended over periods during which cholera was absent at long intervals, or present only a few days, the meteorological conditions being, nevertheless, submitted for the whole period. In Chumparun the latter were taken 30 miles away from the Bettiah villages where the cholera, forming the subject of report, occurred. Moreover, the mortality is shown for months

instead of for days. The paucity of information under this head this year is no doubt due to the diminished prevalence and fatality of cholera during it:—

Locality.	PERIOD.	Rainfall in inches.	TEMPERATURE OF AIR.			Mean of daily air: moisture 100 being saturation.	WIND.		Total of Cholera deaths recorded.	Daily average of Cholera deaths.
			Mean of daily maxima.	Mean of daily minima.	Range.		Direction.	Mean velocity—miles per diem.		
SHARIAKANDI THANA IN BOGRA.	<i>Accession.</i>									
	14 days, from 8th to 21st October ...	0·65	88·5	75·7	12·7	78·2	Calm 8 days ... N. 4 days ... E. 2 days ...	34·3	51	3·6
	<i>Culmination.</i>									
	48 days, from 22nd October to 8th December.	.....	83·6	68·7	19·9	70·7	Calm 33 days ... N. 12 days ... S. 1 day ... E. 2 days ...	27·4	250	7·5
FARIDPORE TOWN.	<i>Decline.</i>									
	23 days, from 9th to 31st December	.....	77·8	55·8	22·0	63·3	Calm 6 days ... N. 12 days ... S. & E. 5 days ...	23·1	55	2·4
	<i>Accession.</i>									
	25 days, from 13th March to 6th April.	0·40	80·1	76·1	18·9	64·1	N. E. 5 days ... N. W. 7 days ... S. & S. W. 13 days ...	360·6	71	2·8
FARIDPORE TOWN.	<i>Culmination.</i>									
	14 days, from 7th to 20th April ...	0·05	92·8	75·1	19·8	61·4	N. E. 2 days ... S. & S. W. 12 days ...	134·4	90	7·0
	<i>Decline.</i>									
	17 days, from 21st April to 7th May...	0·74	96·3	75·6	22·8	68·8	E. & S. W. 4 days ... S. 8 days ... S. E. 5 days ...	223·0	8	·5

The figures shown in the table for the Shariakandi thana in Bogra refer to two places. The meteorological observations were made in the head-quarters station of the district, from which Shariakandi is 12 or 15 miles distant. The figures for Faridpore town, both as to meteorology and disease, are for the town only. In Shariakandi the outbreak of cholera was part of the winter exacerbation of the disease common to Lower Bengal, and its culmination is associated with diminished temperature, increased range of temperature, diminished humidity and less wind velocity, while a continuation of the same conditions for 23 days from 9th to 31st December was attended by a decline of the disease. Throughout the whole period of accession, culmination and decline, there were many calm days, and the north-east monsoon was established. There was also little rainfall, and that only during the period of accession. In the Faridpore town the disease appeared during the spring, the time of greatest prevalence of the disease in Lower Bengal, and during its accession the mean maximum and minimum temperature and daily range do not differ very widely from those found at the beginning of the outbreak in Shariakandi, but the difference in humidity is very considerable and of wind velocity very great. Culmination was attended by mean temperatures not very widely differing from the time of accession, but the range was 5·9° greater and wind velocity decreased. A slight fall in temperature, increased rainfall, increased range of temperature, and increased humidity with diminished wind velocity characterize the 17 days of decline. Throughout the whole period the south was the prevailing wind with easterly and westerly components, and the rainfall was light.

The whole question, however, has already been exhaustively considered by Drs. Lewis and Cunningham in their admirable treatise on "Cholera in relation to certain physical phenomena," published at the office of the Superintendent of Government Printing, Calcutta, 1878; and I am not sanguine that the method of inquiry enjoined is likely to throw much light on the etiology of the disease, or do more than "to indicate the extremely complex nature of the questions to be determined." We already know the condition which foster the disease, and what the Sanitary Department requires is more power and more money to remove them, leaving to savants to puzzle out the problem of causation, while in the meantime we save useful lives.

37. The orders of the Government of India, Home Department, No. 398, dated 29th October 1878, paragraph 5, sanctioning the request of this office to exhibit in the Cholera Map the distribution of the disease in each sub-

division in the Province instead of in each thana or registering circle, having been abrogated recently in favour of the latter mode, I have arranged with the Assistant Surveyor-General to have a map of Bengal prepared, showing the boundaries of the thanas, and on a scale which will admit of the cholera statistics being exhibited in it as desired.

38. This information is furnished in the subjoined table. It shows that very little cholera occurred during the year under review at these public gatherings in Bengal. This

Cholera at Fairs.

immunity while due, to a great extent, to the greater care taken in the observance of sanitary precautions generally, is no doubt associated with the general decline in the prevalence of cholera during the year. That the adoption of sanitary precautions is of great value is evidenced by the facts that, although cholera was very prevalent only 20 miles from the Baruni *mela* in Munshigunge, the fair was very slightly affected; that the outbreak of cholera in the Sonopore fair in Sarun is attributed to the difficulty which was felt in preventing promiscuous squatting owing to the immensity of the gathering, and that in the Santipore fair it was due to the pilgrims being compelled to resort to the sides and banks of the river for defecation, as no sites for the construction of latrines were available owing to the flood from the river not having subsided. Nevertheless, we find from the reports that the number of fairs is not small in which, while no sanitary measures were adopted, there were no outbreaks of the disease:—

DISTRICTS.	Fairs where held.	Name of Fair.	Fairs when held.	Duration of Fairs.	Number present at Fairs.	CHOLERA PREVALENCE AT FAIRS.		Were sanitary precautions adopted at Fairs?
						Cases.	Deaths.	
Burdwan	Agradip	Not stated ...	March	3 days	35,000	Few ...	Not stated.	Yes.
Hughli	Tribani	Baruni	April	1 day	25,000	7	5	Do.
24-Pergunnahs ...	Tarkessur	Churukponjah ...	April	8 days	100,000	1	1	Do.
Nudda	Diamond Harbour ...	Gunga-Sagar ...	January	1 week	100,000	13	1	Do.
...	Santipore	Rash-mela	November	7 days	40,000	Not stated.	76	Do.
...	Nobadwip	Not stated	Ditto	4 "	10,000	Not stated.	Not stated.	Do.
Dinajpur	Ranisunkoil	Nekmuri	April	14 "	250,000	Not many.	Not stated.	Do.
...	...	Aluakhaua	November	10 "	140,000	Not stated.	13	Do.
Dacca	Munshigunge	Baruni	January	Not stated.	Very large	8	None	Do.
Sarun	Sonopore ... ..	.....	October	20 days	200,000	20	14	Do.
Hazaribagh	Madhuban	Madhuban	Not stated	Not stated	5,520	2	.....	Not stated.

39. The local Reports show that, with few exceptions, no cholera occurred among pilgrims or travellers passing through the districts in Bengal. The noticeable exceptions are cited below. It should, however, be mentioned that in a few districts the introduction of the disease into them is referred to importation by pilgrims. Notices of these cases will be found interspersed in the following pages of this Report devoted to the illustration of the incidence of cholera in districts; but an examination of the histories of these cases also shows that, on the whole, the theory advanced is not conclusively supported by the facts.

Cholera among Pilgrims.

In the Puri district cholera broke out along the pilgrim routes. In the Puri town there occurred during the Car festival from the 1st to the 26th July 187 deaths, and it appeared that most of the cases of the disease came from Jalsichawra, six miles from the town. Only a few cases of cholera occurred among the pilgrims who passed through the Cuttack district on their way to Puri. This is considered to be very remarkable, because they suffered this year great hardship and privation during their journey, in consequence of the disorganization of the steamer and boat service on the Kendrapara canal, caused by the breach in the Mohanuddi anicut, by which the depth of water in the canal was much reduced, and the steamers and boats were prevented from running beyond short distances. The pilgrims had thus to be crowded in the boats and steamers, and were landed at various distances from Cuttack, to which they had to find their way by road without frequently being able to obtain suitable food on their journey. In the Bunggore district some of those who were attacked by cholera at the Aluakhaua fair held in Dinajpur, died in the district while they were proceeding to their homes. In Burdwan a

few cases of cholera occurred among the pilgrims who were proceeding to their homes in Kalna from the fair held in Santipore in Nuddea. Three hundred and sixty-nine pilgrims were admitted into the Gurbetta and Dantoon Dispensaries in the *Midnapore* district, of whom 36 died, 4 from cholera and the rest chiefly from bowel-complaints.

40. The main facts connected with the incidence of cholera in the districts are subjoined. To avoid lengthening the report, I purpose to employ only so much statistical information as will be found absolutely necessary to illustrate the observations of the local officers and my own. Notices of the districts where the mortality from cholera was insignificant, and of those regarding which nothing of importance is available for record, will also be omitted.

BENGAL.

41. In Bengal Proper 76,144 persons fell victims to cholera, in 14,448 villages, and the death-rate in relation to its population, numbering 35,073,770, was 2·17 per 1,000. Contrasted with former periods, there was a decrease in deaths of 6,238, equivalent to ·17 per 1,000 of population as compared with 1885, but an increase of 1,834 deaths, or ·06 per 1,000 as compared with the quinquennium 1881-85.

Mortality from, and Seasonal incidence of Cholera in the Bengal Division of the Province.

	Deaths.	Rainfall.		Deaths.	Rainfall.
January ...	8,190	·15	July	1,053	17·46
February ...	4,578	·07	August	801	17·13
March ...	6,426	2·93	September	654	15·24
April ...	16,069	1·53	October	2,267	3·48
May ...	7,822	9·02	November	7,209	·18
June ...	1,474	12·84	December	19,601	·05

Next to Orissa this division of the Province suffered the most. The seasonal distribution is shown in the margin in association with rainfall, and exhibits the following aspects. From January to April, when the rainfall was low, amounting to 4·68 inches, the mortality was comparatively high, April exhibiting very great exacerbation, so much so as to render it the most unhealthy month next to December. With the unprecedentedly great rainfall during May to September, aggregating 71·69 against 62·81 inches the average of preceding years, there occurred a sudden and steady decline in the numbers of the casualties. The severity of the disease revived in October, increased greatly in November, and culminated in virulence in December, which was the most unhealthy month of the year. During this period the rainfall amounted to only 3·71 inches. From the above facts it is apparent that Bengal experiences two seasons of high prevalence of cholera, viz., the hot and winter months, and that it enjoys much immunity from it during the height of the rains. All the divisions composing Bengal Proper, presented, on the whole, the same features; but there were some district variations, notable instances of which will be mentioned hereinafter.

42. **BURDWAN DIVISION.**—The returns of this division presented 9,748 deaths, or at the rate of 1·31 per 1,000 of its population estimated at 7,393,954, against 2·61 per 1,000 in 1885 and 1·78 per 1,000 in the lustrum 1881-85. The percentage of villages pervaded by the disease was 6·98 against 10·30 in 1885. These figures indicate a considerable decline both in point of diffusion and fatality. The contributions towards this mortality by the six districts composing this division are exhibited in the margin in order of severity. Contrasted with the outcome of the immediately preceding lustrum, all these districts, excepting Midnapore, returned decreased mortality to the extent of Birbhum 1·81, Burdwan 1·51, Bankura ·72, Howrah ·28 and Hughli ·07 per 1,000 of population. Birbhum, Burdwan and Bankura, which presented the largest reductions in mortality, also exhibited the greatest diminution in the extent of prevalence of the disease, the percentages of villages pervaded being less by 16·37, 13·47 and 3·32 respectively. Midnapore experienced a higher death-rate, but by only ·04 per 1,000 of population, and an extension of the disease to 1·60 per cent. of its villages. The salient points,

	Ratio per mille.		Ratio per mille.
Howrah ...	2·20	Burdwan ...	·88
Midnapore ...	1·84	Birbhum ...	·74
Hughli and Serampore	1·38	Bankura ...	·46

submitted in the local reports, connected with the history of cholera in the above-named districts, worthy of record, are the following:—

43. **Burdwan.**—The Magistrate is of opinion that the water-works served to a remarkable extent to diminish the virulence of cholera in the Burdwan town, the death-rate having fallen from 6·25 in 1885 to ·64 per 1,000 this year; but I think it is too early to pronounce an opinion, especially as the town may have simply shared in the general abatement of the disease in the district, as there was a reduction of mortality in every registering circle, notably in the Kalna and Ranigunge town, and in the Burdwan, Bood-Bood and Cutwa thanas. In the **Bankura** district also every registering circle suffered less from the disease, most of them considerably so, the Sonamukhi town showing no deaths and the rural circle of the same name presenting the insignificant death-rate of ·01 per 1,000. This is the more remarkable, as these circles as well as Indas, where also the mortality was very low—·25 per 1,000—are admitted to be the worst localities in the district in point of sanitation, and were the hotbeds of the disease in 1885. It was noticed that the greater severity of the disease, mild as it was, was confined to the thanas (Bankura excepted) situated in the northern and eastern parts of the district, while in the southern and western parts it prevailed less severely. The Assistant Surgeon has shown clearly that the bulk of the cholera of this year occurred in localities far removed from the pilgrim routes. He notes that while cholera was prevailing in the town and district, and new prisoners from all the infected localities were daily admitted into the jail, not a single case of the disease occurred in it, and from these facts he concludes that human intercourse has nothing to do with the propagation of cholera. In the **Birbhum** district the disease is believed to have been imported by pilgrims on their way home from the shrines at Baidyanath and Gya and the river Ganges, and that in the Ramporehaut thana it was introduced by a man from Calcutta. The details furnished in support of these statements are deficient. It is most important to trace the carriage of the disease from the shrines to the infected localities, and this has not been done. In my Report for 1884, in which the subject was fully discussed, it is shown that pilgrims do not import cholera, and the causes why they are attacked and die have been explained, which, briefly summed up, are exposure, hardship, bad food and water when travelling. **Midnapore** was the only district in the Burdwan Division, where an exacerbation of the disease, with regard to both extension and fatality, occurred. To this enhancement 16 out of the 29 circles in the district contributed, notably the Raghunathpur, Contai, Khagri, Nundigram, Gurbetta and Dantun thanas, which returned excesses of mortality amounting to 5·45, 2·73, 2·09, 1·78, 1·51 and ·92 per 1,000 of population respectively. It is stated that cholera appears to be increasing in the district, and that this year its severity was felt to a much greater extent than during the six preceding years; and the cholera statistics of the district

			Number of deaths.
In 1886	...	...	4,632
„ 1880	...	...	1,976
„ 1881	..	...	2,999
„ 1882	...	...	3,460
„ 1883	...	...	3,766
„ 1884	...	...	3,876
„ 1885	...	...	3,608

bear out this statement, *vide* marginal figures. Dr. Tomes, the Civil Surgeon, characterizes the cholera of this year “as an excessive manifestation of endemic disease, not as an epidemic.” On the subject of the importation of the disease by pilgrims, he makes the following observations which have been supplemented by my own remarks. Of the thanas (Raghunathpur, Contai, Khagri, Nundigram, Gurbetta and Dantun) above-mentioned, Dantun and Gurbetta, which returned death-rates of 2·15 and 2·22 per 1,000 of population, are traversed by pilgrims, but so is Salbuni, which escaped, as in 1885, with very slight mortality—·14 and ·20 per 1,000. To Salbuni I would add Debra, Midnapore, Keshpur, Panchkura and Narainghur, which are also on the pilgrim routes, but returned the comparatively low death-rates of ·49, ·66, ·87, 1·26 and 1·74 per 1,000. Again, of the other severely-affected thanas—Raghunathpur, Contai, Khagri, and Nundigram—which bore the greatest burden of the cholera mortality of the year, Raghunathpur, and also Egra which also returned a comparatively high death-rate, viz. 2 per 1,000 of population, are not on the pilgrim routes. Enquiries made by the Civil Surgeon also go to show further, that the pilgrims themselves were not attacked by the disease to a greater extent than

usual, and that the disease was more prevalent in the villages away from the pilgrim roads than in those lying on it in which the pilgrims lodged. **Hughli including Serampore.**—In this district cholera prevailed most during the fourth quarter of the year from the same influences which caused an increase in Calcutta at the same time; but this enhancement does not represent an epidemic, but only an exacerbation of an endemic disease. Very exceptional mortality from the disease occurred only in the urban and rural circles of Hughli and in the town of Serampore, where the casualty rates amounted to 5·13, 7·24 and 7·62 per 1,000 of population, respectively. To the severity of the disease in the Serampore town, the Rishra village contributed to no small extent. Here 51 cases of cholera attended with 25 deaths occurred in the cooly lines belonging to the Hastings Jute Mills Company, and the village itself was severely affected. Cholera is an annual visitant of the Rishra busti, including the Hastings and Wellington Jute Mills, as will be seen from former reports. According to Mr. Ritchie, the Sub-divisional Officer, this locality is a breeding-ground of the disease. It is chiefly occupied by coolies. The land belongs to Government (khas mehal lands), but it has been farmed out to the Mill proprietors, who in their turn have let it to others, and the latter enjoy large rents by letting out the huts, constructed by them in the lines, to coolies. Some of these lines are terribly overcrowded, and the huts are ill-construct and hardly raised above the ground, and the natural drainage is intentionally obstructed. The coolies, as well as the other busti people, are filthy in their habits, their food is unwholesome, and they are altogether indifferent to sanitation. To check these outbreaks, Mr. Ritchie suggests that a clean sweep of the lines be made, that the land be drained and new lines erected, the cost being met primarily by the Mill proprietors, secondarily by Government, who gets a large rent from the lands, and thirdly by the Municipality. But it is difficult, it is said, to carry out these suggestions, and the Municipal Commissioners are helpless in the matter, owing to the above land and also the similarly unsanitated Mohes busti being Government property leased out to private parties. It appears, therefore, that in order to grapple with the gross insanitary conditions prevalent in them, the lands should be held under a lease by the Municipality, and that, consequently, Government interference in the matter is indicated. As proofs of what good sanitary measures are capable of effecting, the following may be cited:—Cholera, which is a frequenter of the Champdani busti in the town of Baidyabati, the coolies being the chief victims, was altogether absent from it this year, and this is ascribed to the busti having been placed in a good sanitary condition, a supply of filtered water supplied, and a new road through the busti and latrines, &c., constructed. Again, only a few cases of the disease occurred among the coolies employed on the Hughli Bridge Works, as good huts and temporary latrines were provided for them, and a Native Doctor was in attendance. The general history of cholera in the Sub-division of *Serampore* is as follows:—Sporadic cases of the disease were reported from different parts of the Sub-division throughout the year, but it assumed epidemic proportions in November. In all 1,100 cases of the disease attended with 710 deaths were reported. Several outbreaks occurred, but chief among them is the one which took place in October in the Rishra, Chatra, Serampore and Connagor wards of the Serampore Municipality, which gradually spread over the whole town, and then extended eastward and westward, affecting all the towns on the west bank of the Hughli river from Utterpara to Bhudressur, and also many villages in the Chunditola, Haripal and Singhoor thanas. During this outbreak 659 persons were attacked, of whom 399 died. The disease was looked upon as endemic, and not referable to importation.

44. PRESIDENCY DIVISION.—In this division 25,213 persons were carried off by cholera, or at the rate of 3·24 per 1,000 of its population, numbering 7,771,693, and 21·05 per cent. of its villages were affected. The corresponding figures of past periods were—in 1885 deaths 22,787; death-rate 2·93; percentage of villages attacked 20·22—in lustrum 1881-85, deaths 25,666; death-rate 3·30. It appears, therefore, that in this division the disease prevailed somewhat more extensively, and that the mortality exceeded that of 1885 by ·31 per 1,000 of

population, but was below that of the lustrum 1881-85 by .06 per 1,000. The five districts embraced by this division presented the mortality shown in the margin. Of them Jessore and 24-Pergunnahs exhibited, in comparison with the

	Ratio per mille.		Ratio per mille.
Nuddea	4.26	Khulna	1.59
Jessore	4.06	Murshidabad ...	1.41
24-Pergunnahs ...	3.68		

lustrum 1881-85 higher casualty rates, the excess amounting to .91 and .37 per 1,000 of population, while Murshidabad, Nuddea and Khulna returned diminished fatal results, the diminution consisting of 1.11, .76 and .74 deaths per *mille* of population. The extended prevalence of the disease above alluded to occurred in the Jessore and 24-Pergunnahs districts, where excess percentages of villages, represented by 7.86 and 4.55 respectively, were overrun by the disease. The history of cholera in these districts, as deduced from the local reports, is subjoined.

45. 24-Pergunnahs.—The noticeable feature exhibited by cholera this year in this district is that the suffering during the last quarter was unprecedentedly great, as 2,867 deaths occurred during October, November and December against only 2,079 during the remaining nine months, December alone returning 2,217 casualties. Of the local outbreaks the following claim attention:—In the *Suburbs of Calcutta* some abatement in the severity of the disease was perceptible, as the death-rate fell from 8.68 per 1,000 of population, the mean of the immediately preceding lustrum, to 7.33 this year. The mortality, it will be seen, was still very high. The disease did not appear to have been confined to any special locality, but was distributed, to a more or less extent, over all the wards of this Municipality. Its severity in the last quarter attracted public attention, and special steps were taken to arrest its progress, among which were the appointment of four Assistant Surgeons to treat the affected from house to house, and of extra coolies and mehters to attend to the conservancy, and the employment of disinfectants largely. The insanitary conditions obtaining in this important Municipality, which favour the propagation of the disease, having been often exposed in my previous annual and other Reports, I need not recapitulate them here. Legislation is in progress to amalgamate the Suburbs with the Town of Calcutta. When this is accomplished, there will be some valid hope of improvement. Similar conditions obtain in all the many municipal towns in the 24-Pergunnahs district, and outbreaks of cholera in them were numerous and some of them severe. The most so was the one in the North Barrackpore Municipality in the village of Garulia, in which the coolies attached to the Dunbar Cotton Mills live. The Agents addressed the Government on the insanitary state of the town, which, as directed, I inspected. The sanitary state of Garulia was even worse than that of Rishra in Serampore. There was not a sweeper employed throughout the whole town, which is on the bank of the Hughli, just above the intake of the Calcutta water-supply. The mortality was 8.15 per 1,000. The appearance of the disease in Baraset, in the South Suburban Municipality, in Goberdanga, and in North Dum-Dum town is in all instances attributable to the same causes. All the towns in this district have received careful attention from the officers of the Sanitary Department, but their recommendations have, in most instances, been attended by little result. The Deputy Sanitary Commissioner advised the Commissioners of Baraset to set aside tanks for drinking water-supply. They urged that bathing was as necessary as drinking. The Commissioners of Baduria declined to interfere with the "time-honoured custom" of the Mahomedans of burying their dead within their homesteads, which is a universal custom almost in all the towns in the 24-Pergunnahs, with the exception of Calcutta, which buries its Mahomedan dead in the Suburbs. Municipal administration in all these towns is very inefficient, and the money raised by taxation often misdirected. In the Diamond Harbour sub-division it was noticed that some villages situated on the main lines of communication by rail with Calcutta were affected by cholera, and it was therefore believed that the disease was imported. The relation between cholera and water-supply is well illustrated in the following passage which occurs in the diary of Assistant Surgeon Umesh Chandra Ghose, Deputy Superintendent of Vaccination, 1st Metropolitan Circle. In Kulaydanga, a village in thanah Hosseinabad, 20 persons died of cholera, among its population numbering 891, within 19 or 20 days. There are three tanks in this

village from which the villagers take their drinking water. All of them are covered with weeds. The first case occurred in a house situated on the bank of one of these tanks. The man died without any treatment. Five surviving members of the family were subsequently affected and died in a few days, and 14 more deaths occurred among the villagers who drank the water of this tank. Careful enquiry on this point by the Assistant Surgeon convinced him beyond doubt that the 20 persons who died of cholera in this village used to drink the water of one and the same tank; that the first case occurred among those who lived on the side of this tank; and that the disease did not occur among those who drank water from other sources. Another instance supporting the same view is furnished by the same writer in connection with a representative cholera-stricken *bari* (home) in the Harwa thana. "The *bari* is situated in the midst of a bamboo jungle. On its three sides there are three ponds, two of which are shallow and have become receptacles of stagnant water and decomposed bamboo leaves, and in one of these jute was steeped. The third pond is comparatively deeper, and is situated just behind a cook-room, on the back wall of which is a hole through which rice water and all sorts of refuse are thrown on the side of the pond. There are some tamarind trees on the side of this pond with overhanging branches, and the leaves as they dry fall on the water. The water has in fact become green. I could not stand on the side of this tank without putting my handkerchief to my nose. The water of this tank is used for culinary purposes." **Nuddea.**—

		Ratio per	cholera-stricken districts. Its statistics, marginally
		<i>millio.</i>	furnished, show that the disease is established
In 1886	...	4.26	here, and has a very high prevalence varying very
" 1881	...	3.38	little from year to year. It has two periods of
" 1882	...	5.46	exacerbation, viz. during the hot months in March,
" 1883	...	4.69	April and May, and the cold season in November
" 1884	...	5.79	
" 1885	...	4.25	

This district occupied the fourth position in the list of the most severely cholera-stricken districts. Its statistics, marginally furnished, show that the disease is established here, and has a very high prevalence varying very little from year to year. It has two periods of exacerbation, viz. during the hot months in March, April and May, and the cold season in November and December, and the Magistrate observes that its severity varies directly with the fish-supply and inversely with the water-supply. After the inundation subsides and dries up, rotten and tainted fish becomes the favourite food of the masses, and it is then that cholera prevails to an alarming extent. During the periods of severe prevalence of the disease the wells and tanks run low, and their water becomes stagnant and unfit to drink, but is drunk. This has been also the experience of the year under review, and to these causes another is added, viz. carelessness in the disposal of cholera evacuations. An outbreak of cholera which occurred at the Rashjatra melâ in the Santipore town in November is said to have been carried to the town of Kishnaghur, and to have prevailed severely until the end of the year; and another which broke out at the fair held in the Nobadwip town was said to have lingered in that town for two months. The towns in this district returned very high death-rates from cholera:—Nobadwip 6.80 per 1,000, Meherpore 5.06, Ranaghat 3.68, Kishnaghur 3.16, Santipore 2.32 and Kushtea 1.13. I feel persuaded that this high prevalence of the disease is associated with the existence in these towns of very large numbers of well-prives, most of which are never cleaned, some covered with a layer of earth when full, and in others, notably in Santipore, the process is to dig a pit by the side of the existing full one, and to transfer the contents of the latter into the former and to cover with earth. Cholera prevailed much more severely in the **Jessore** district than during the preceding year, and it exhibited epidemic proportions in January and again in April. The Civil Surgeon notes that the usual insanitary conditions existed wherever the disease prevailed—filth, foul air, impure water, ill-constructed and ill-ventilated homesteads, unwholesome or insufficient diet being the chief factors in the production of the disease. Of local outbreaks one of a virulent type occurred in village Sham Kunda in thana Moheshpur, and was referred to the filthy habits of the lower classes of people among whom the disease usually prevails with marked severity. A large number of villages in the Sudder, Narail and Magurah sub-divisions, and village Kotchandpore in the Jhenidah sub-division, also suffered similarly. Want of good drinking water, obstruction of drainage, uncleanness, &c., are quoted as having caused the outbreaks. **Murshidabad** experienced a favourable cholera year. Of

exceptional outbreaks of the disease, one is reported to have occurred in the Berhampore town, attended with a mortality of 6·48 per 1,000 of population, and another in villages Kalgram and Sabooni in thana Kandi. In the latter the disease is said to have been imported from Nuddea, where some of the villagers had gone on a pilgrimage and returned affected; in the former the disease received the attention of the Magistrate and Municipal Commissioners.

46. **RAJSHAHYE DIVISION.**—Of the population of this division numbering 7,734,733, 13,574 died of cholera in 2,012 villages, representing a death-rate of 1·75 per 1,000. Compared with 1885, there was a decrease in the percentage of villages invaded by the disease of 3·89 with a decline in mortality of ·64 per 1,000; but in contrast with the quinquennium 1881-85, there appears to have been an increase in the death-rate of ·16 per 1,000. The mortality returned by

	Ratio per mille.		Ratio per mille.
Rungpore	2·92	Bogra	1·31
Pubna	2·46	Rajshahye	·78
Julpaiguri	2·28	Dinajpur	·41
Darjiling	1·47		

the seven districts comprising this division is given in the margin in the order of fatal results. Taken individually, they show, as compared with the outcome of both the periods above-mentioned, a decline in both extension and fatality in Dinajpur, Rajshahye and Bogra, against an enhancement in Rungpore, Pubna, Darjiling and Julpaiguri. In point of diminution in mortality, Rajshahye achieved the highest reduction in comparison with both periods, viz., by 5·00 and 2·59 per 1,000 of population, and in point of increment Rungpore, viz., by 2·04 and 2·02 per 1,000 respectively. The histories of the incidence of cholera in these districts are subjoined.

47. As was the case in Bankura so in **Dinajpur**, thanas Porsha and Patnitolla, which had high mortality from cholera in 1885 (11·11 and 2·48 per 1,000 of population), enjoyed entire immunity from it this year, while all the other registering circles, excepting Thakurgaon and Ranisankail, exhibited considerably reduced fatal results. There was one notably severe outbreak. It occurred in April among the coolies on the Railway line, and was attributed to the large and indiscriminate consumption of new rice and other similar articles irritant to the stomach; to filthiness, defecation being carried on near the banks and in the bed of the river; and to dead bodies with the clothes soiled with cholera excreta being cast into the river. It is said that the removal of these conditions had the effect of speedily stamping out the disease; but that the coolies, in absconding, spread the disease to different parts 12 miles along the Railway line. There was more cholera in the **Rungpore**

	Ratio per mille.		Ratio per mille.
In 1886	2·92	In 1881	1·21
" 1877	·64	" 1882	·84
" 1878	1·65	" 1883	1·01
" 1879	1·48	" 1884	·55
" 1880	·02	" 1885	·88

district than in any year since 1877, *vide* marginal figures. It was of a severe type, but did not attain epidemic proportions owing, mainly, to the people living scattered in hamlets rather than in over-crowded villages. It was wide-spread in the sub-division of Gai-banda, in which the bulk of the mortality occurred, amounting to 6·00 per 1,000 of population distributed between its thanas of Bhowanigunge, Sadullapore, Sundergunge and Gobindgunge in the proportions of 12·92, 7·95, 6·86, and 2·30 per 1,000 respectively. It was localized in a number of villages in the sub-division of Kurigram, but here only 3·63 per 1,000 of the population died. With regard to thana Sadullapore, the Magistrate reports that the whole of its northern portion is exceedingly unhealthy; that the population is dying out, and the rich lands are rapidly reverting to jungle; and that cholera breaking out among such a plague-stricken people as they are, is sure to carry off a large number of them. I myself saw the dwindling away of the population seven or eight years ago. As cattle disease—rinderpest, &c.—prevailed very largely along with cholera, it is suspected that the latter was propagated by the consumption of the diseased meat of such cattle by the Māhomedans who form 70 per cent. of the population; and the Medical Officer is doubtful whether such cases can be called cholera or poisoning by diseased meat. With regard to the causation of the disease generally, the Civil Surgeon, Dr. Dutt, notes that most of the affected villages receive

their water-supply from small streams traversing them, which are polluted with all kinds of filth and become stagnant from silt or other impediments; that this evil was intensified by the moderate rainfall of the year; and that putrid, foetid fish and diseased meat are largely consumed. These he considers to be subsidiary causes of the disease. The consumption of putrid fish and meat explains the excessive prevalence of bowel-complaints, most of which are put down as cholera. In opposition to the Civil Surgeon's statement that cholera is referable to the small streams having silted up may be quoted the Magistrate's report to the effect that there were most unusual floods this year; that churs were submerged which had not been so since 1877; that all the rivers overflowed and nearly the whole of thana Sadullapore was inundated, and that when this inundation subsided the cholera began. But, from personal observation I know that some river-beds are levelling up and ceasing to act as drainage channels or sources of good water-supply. The following observations of Dr. Dutt clearly indicate that cholera is not propagated by inter-communication or importation, particularly when it is considered that they apply to a year during which the disease was unprecedentedly fatal and widely spread. "Almost all the places where the disease was very prevalent were remote from the railway and other important lines of communication either of trade or of pilgrimage, a fact which bears on both the years 1885 and 1886; while such centres of population and trade as Saidpore and Rungpore escaped with 3 and 12 cases respectively." The very high death-rate from cholera of 4.59 per 1,000 of population in the Sheriakandi thana in the **Bogra** district was traced by the Civil Surgeon, Mr. Blaker, by personal investigation, to the hardships to which the people were subjected in manufacturing jute fibre and to drinking the water in which the jute was steeped. He found that the villages, situated mostly in the north and north-east of the thana, were well scattered and not at all crowded, and the country low and very damp and to a great extent under water to a depth of several inches; that they were entirely surrounded by rotting jute ponds; that the people, poor in physique and ill-nourished, were working in these ponds half immersed throughout the day in water, while the other half of the body was exposed to a hot sun, and frequently drinking the polluted water of the ponds to quench the thirst created by the heat and exertion; that there were also kutchas wells, situated in close proximity to the jute ponds, from which drinking water was taken; and that it was suspected that the dead were buried in the vicinity of the dwellings of the people. On the other hand, he noticed as a very remarkable fact, that in the villages in the west of this thana, where the land is higher and drier, and where little or no jute cultivation is carried on, there was not a single case of cholera. In ~~Pubna~~ ^{Pubna} the incidence of the disease, which was high, was not localized but general throughout the district, and each outbreak was severe at its commencement and abated gradually afterwards. The town of Pubna and thanas Dulai, Pubna, Mathura, Chatmoher and Shazadpur, comprising the greater portion of the district, exhibited death-rates of 6.87, 6.94, 3.09, 2.84, 2.13 and 1.30 per 1,000 of population respectively. The town is in an insanitary condition, as will be seen by a reference to Appendix V to this Report, and it was noticed that during the epidemic the men deserted their homes leaving the women, and that a curious, but pernicious, custom obtained in it, viz., that the people used to throw the cholera excreta into holes dug in the rooms and verandahs of their houses, in utter ignorance of the danger of the process. If this practice has been a long standing one, it may account for the periodical prevalence of cholera in this town, if the germ of the disease can lie dormant and subsequently revivify. There was considerably more cholera in the **Darjiling** district than during the preceding two years, but the greatest portion of it was confined to the Kurseong thana, which returned a death-rate of 5.82 per 1,000 of population. The Darjiling rural circle escaped the disease entirely, and the Civil Surgeon characterizes the three casualties returned for the Darjiling town as sudden deaths with vomiting and purging in the *Bhutia busti*, which were ascertained to have been caused by the consumption of rotten fish by the sufferers a short time before the attack. **Julpaiguri**, after enjoying great immunity from the disease during the preceding two years, suffered very considerably this year. In fact the

epidemic incidence of 1883 was repeated this year. Originating in the Falacotta and Salbari thanas, the disease spread gradually over the whole district,

affecting most the thanas named in the margin, Salbari suffering at the highest rate after escaping entirely in 1885. Some of the tea gardens were also attacked severely, and in one the deaths numbered over 200. Contrary to the experience of the preceding year, the disease prevailed least during the months of heaviest rainfall and became epidemic after the monsoon, rendering its winter severity most marked. The usual insanitary conditions are put forward as accounting for its prevalence, viz., impure water, tainted atmosphere, crowded dwellings, damp soil, imperfect drainage, unhealthy occupation, and undue exposure to climatic changes. To these is added the following as fostering the disease. It has been the practice in this district for generations past to store fish during the rains in large open-mouthed vessels for the preparation of a paste for consumption, as a staple article of food during the winter, the odour of this preparation being most unbearable. But it should be remembered that a similar practice exists in Burmah and other places.

43. **DACCA DIVISION.**—In this division 23,975 deaths from cholera were recorded in 17·80 per cent. of the villages against 13·49 per cent. in the preceding year, and the mortality stood at 2·75 per 1,000 of the population, aggregating 8,700,939, against 1·84 per 1,000 in 1885 and 2·17 during the lustrum 1881-85, indicating that the disease was more widely diffused and more fatal.

The four districts comprising this division returned the death-rates exhibited in the margin, and of them Faridpore, Dacca and Mymensing experienced severer, and only Backergunge less mortality than during both the preceding year and quinquennium, the excess being represented in Faridpore by 2·38 and 1·90 per 1,000 of population respectively for the two periods, in Dacca by 1·49 and ·83 per 1,000, and in Mymensing by ·59 and ·88 per 1,000, and the diminution in Backergunge by ·50 and 1·30 per 1,000. Separate accounts of the prevalence of the disease in these districts follow.

49. There was a very considerable accession of cholera in the **Dacca** district. Brought over, as usual, from the preceding year, it was present during this year in every month, June to September showing very little of it, but December exhibiting great intensity when it spread to nearly every thana, specially Munshigunge. The experience of the past seven years with regard to the behaviour of the disease is repeated, viz., that in years of low flood cholera is not unusual in August, September and October; but that when the country is inundated it practically disappears, only a few sporadic cases occurring in the higher lands; and that as soon as the drying up process commences its severe phase is again observable, which increases in intensity until the country is fairly dry. Of local outbreaks one occurred in virulent form in November in thana Lalbagh or Keranigunge, causing the high mortality of 5·51 per 1,000 of population during this month and December, particularly in the latter, and spreading widely over the whole of the sub-divisions in the district. In connection with this outbreak the Civil Surgeon observes: "In my experience it is hopeless to expect villages to adopt any prophylactic measures whatever. They will persist, in spite of all our efforts, in drinking foul water, even if they are in a position to obtain river water; and to expect them to boil or filter water, to clean a drain, to leave an infected spot temporarily, even to drink prophylactic doses of acid sulphuric dilute if given them, (as is issued daily to every convict), is utopian. Issue sulphur and direct them to burn it in their houses and near the bed of a cholera patient and it will be done so long only as it is done for them. In short, it is impossible to help people who obstinately refuse to help themselves or even to meet you half way towards it." Cholera was also specially virulent and fatal in the notoriously unhealthy sub-division of Manickgunge. Comparison is also instituted between the extremely mild prevalence of cholera at the Baruni mela at the height of the cholera season

	Ratio per mille.		Ratio per mille.
Salbari ...	12·66	Alipur ...	2·89
Keranti ...	3·45	Mynaguri ...	2·66

	Ratio per mille.		Ratio per mille.
Faridpore ...	4·53	Mymensing ...	2·34
Dacca ...	3·01	Backergunge...	1·59

and among a vast assemblage of people, and the severity of the disease which was raging at the same time only 20 miles off in the Munshigunge thana. At the fair every sanitary precaution was observed; in the latter locality little or nothing obtained. On these facts the Civil Surgeon observes that the "outbreak of cholera at one or other place was determined by its sanitary condition, and this bears out the generally received opinion as to the value and importance of sanitary measures." **Faridpore** did not only exhibit considerably increased prevalence and fatality of cholera as compared with the preceding year, but was the most severely inflicted district in the whole Province. Excluding four, all the other circles in the district (14 in number) returned higher death-rates than during 1885, and of them in Faridpore town and in Belaikandi, Goalundo, Faridpore, Bhusna and Bhanga rural circles, the suffering was pre-eminently great, as 17·34, 14·63, 13·47, 11·50, 7·18 and 5·92 per 1,000 of their populations, respectively, fell victims to the disease. In the Faridpore town the local schools had to be closed during the period of the culmination of the disease, and the people were advised to, and about half of them did, leave the town for a short time, and sanitary measures were adopted by the Municipality for the mitigation of the disease, towards the cost of which, it is gratifying to find, some of the respectable residents contributed. A few facts connected with this outbreak are cited by the Civil Surgeon in illustration of the non-communicability of the disease and the efficacy of the adoption of sanitary precautions. Here the first case of cholera occurred in the person of a woman on the 25th February. She died the next day, and after her death her house was thoroughly cleaned and *leaped*, and, on the Civil Surgeon's advice, who personally visited the place, her clothing and bedding were burned; her house was fumigated with sulphur; and the floors, where the cholera matter was ejected, were swept, and the sweepings buried. Nothing was heard of the disease after this till the 14th March, when it broke out again and raged with great fatality for a month and three weeks. With regard to cholera in the **Backergunge** district, the Assistant Surgeon in charge, Babu Kunja Lal Sanyal, is of opinion that rainfall had nothing to do with its prevalence or subsidence. But the cholera statistics do not support this view of the matter, for they show that the rainfall from January to April amounted to 6·69 inches, that of May to September 73·02 inches, and that of October to December 5·35 inches, while the mortality from January to May and during December, when the rainfall was small, amounted to 1·17 and ·28 per 1,000 of population respectively, whereas that from June to November, when the rainfall was excessive, was lowest, aggregating only ·11 per 1,000 of population. There was much increase of cholera in the **Mymensing** district, and its incidence, it is stated, followed the same course as in former years. Of local outbreaks, that which occurred in the sub-division of Kishoregunge, particularly in the sub-divisional head-quarters and in Bajitpur, was of a virulent type, and lasted during the first five months of the year, carrying off during this period 3·32 per 1,000 of the population against ·18 per 1,000 during the remaining seven months. This outbreak was attributable, the Civil Surgeon thinks, to bad water, bad food, and imperfect sanitation. It is, however, suspected that deaths from diarrhoea and dysentery were returned as having occurred from cholera.

50. **CHITTAGONG DIVISION.**—Of the population in this division, numbering 3,472,451, 3,634, or 1·04 per 1,000 succumbed to cholera in 957 villages. In 1885, 5,661, or 1·63 per 1,000 of the population died in 1,206 villages, and during the lustrum 1881-85 the deaths amounted to 4,191 or at 1·20 per 1,000. The comparison indicates a sensible diminution both in the area pervaded by the disease and in fatal results.

Incidence of Cholera in the Chittagong Division.			Ratio per mille.
Tipperah	...	...	2·16
Noakhalli	...	...	·42
Chittagong	...	...	·01

The three districts comprising the division furnished the death-rate exhibited in the margin, and of them Chittagong and Noakhalli returned considerably abated mortality, but Tipperah an increment in comparison with both 1885 and the lustrum 1881-85, the abatement being represented by 1·57 and 1·07 per 1,000 of the population in the Chittagong district, and 1·01 and ·36 per 1,000 in Noakhalli, and the increment by ·38 and ·63 per 1,000 in Tipperah in contrast with the two period

in question. Noteworthy facts connected with the prevalence of the disease in these districts are subjoined.

51. In **Chittagong** the disease was, if the records can be trusted, conspicuous by absence. It attacked only four of its 14 circles, causing in them very low death-rates, ranging from .009 to .13 per 1,000 of population, the last figure being returned by the Chittagong town, and the total mortality was considerably lower than during any year of the preceding decade excepting 1881, which year returned the same death-rate as the year under review. In **Noakhalli** also the fatality of cholera was very low; but here only one circle, Hattia, enjoyed complete immunity from the disease, while thanas Ramgunge and Begumgunge and the Sudharam town suffered most, returning death-rates of 1.59, 1.07 and 1.56 per 1,000 of population. Thanas Ramgunge and Begumgunge are low and swampy, much more liable to floods than the southern part of the district near the sea, and the water-logging is great and the drying up process slow. The water-supply of Begumgunge was found to be bad by the Assistant Surgeon, who also, when investigating into an outbreak, found many cases of dysentery and diarrhoea classed as cholera. **Tipperah** did not share in the great freedom from cholera enjoyed by Noakhalli and Chittagong. Here more than half the district suffered severely, notably the Brahmanberiah and Comillah towns and the Comillah and Daudkandi rural circles, where the death-rates amounted to 11.68, 6.29, 3.45 and 3.16 per 1,000 of population respectively. The disease also prevailed in the Sudder jail, causing the death of 6 per cent. of the average strength of the prisoners. Of local outbreaks those which occurred in several villages in thana Muradnugger and in the Chandina and Daudkandi thanas were referred to the use of the filthy and polluted water of old tanks and drains overgrown with aquatic plants and weeds and fouled in other ways.

BEHAR.

52. In the *Behar* Division of the Province cholera caused 25,709 deaths in 3,254 villages among a population estimated at 23,127,104, or at 1.11 per 1,000. In the preceding year 65,663 deaths or at the rate of 2.83 per 1,000 of population were registered in 7,824 villages, and in the preceding quinquennium 40,615 deaths, or 1.75 per 1,000. The comparison consequently points to a considerable reduction in both the diffusion and fatality of the disease. The cholera

EAST BEHAR.					WEST BEHAR.				
DISTRICTS (BHAGULPUR DIVISION.)	Ratio of deaths per 1,000 of population.	Difference in mortality as compared with		Difference in percentage of villages attacked by Cholera as compared with 1885.	DISTRICTS (PATNA DIVISION.)	Ratio of deaths per 1,000 of population.	Difference in mortality as compared with		Difference in percentage of villages attacked by Cholera as compared with 1885.
		1885.	1881-85.				1885.	1881-85.	
		Difference in percentage of villages attacked by Cholera as compared with 1885.							
Munshyr ...	.38	2.68 <i>D</i>	1.12 <i>D</i>	13.18 <i>D</i>	Patna ...	1.82	.79 <i>I</i>	.18 <i>I</i>	1.97 <i>D</i>
Bhagnipore ...	.54	2.87 <i>D</i>	1.22 <i>D</i>	14.84 <i>D</i>	Gya ...	2.22	.83 <i>I</i>	.32 <i>I</i>	4.13 <i>I</i>
Purneah ...	1.34	.23 <i>D</i>	.12 <i>D</i>	3.85 <i>I</i>	Shahabad ...	3.12	.88 <i>I</i>	1.19 <i>I</i>	.02 <i>I</i>
Maldah ...	.18	5.99 <i>D</i>	2.13 <i>D</i>	20.75 <i>D</i>	Mozufferpore ...	.82	4.00 <i>D</i>	1.78 <i>D</i>	13.77 <i>D</i>
Sonthal Pergun- nahs.	.16	3.14 <i>D</i>	1.16 <i>D</i>	12.87 <i>D</i>	Darbhanga ...	.70	2.08 <i>D</i>	.07 <i>D</i>	2.98 <i>D</i>
					Sarun ...	.88	1.11 <i>D</i>	.20 <i>D</i>	5.07 <i>D</i>
					Chumparun ...	.55	3.44 <i>D</i>	1.42 <i>D</i>	7.01 <i>D</i>
Total ...	.58	2.54 <i>D</i>	1.01 <i>D</i>	11.73 <i>D</i>	Total ...	1.39	1.29 <i>D</i>	.45 <i>D</i>	3.67 <i>D</i>

statistics of the 12 districts embraced by it are given in the margin in contrast with the outcome of the anterior periods above alluded to, and they indicate much improvement, on the whole, in both East and West Behar, both with respect to mortality and to area pervaded by the disease. All the

districts, individually considered, show a reduction of mortality during the whole period under comparison excepting Patna, Gya and Shahabad,—Maldah and Mozufferpore exhibiting the most substantial diminution, and next to them Chumparun and Sonthal Pergunnahs. In seasonal fatality, the usual law was, on the whole, followed, in so far that the disease commenced to exhibit severity in April, to progress in activity, month by month, synchronous with the increase of rain-fall, and, as a rule, to diminish as the cold season approached; but in 1886, instead of showing considerable abatement in November and December, it prevailed with markedly unyielding virulence, inasmuch as during

these two months over 38 per cent. of the total mortality occurred, November exhibiting 28 per cent. and being the worst month of the year. The disease disclosed the same features in all the districts in Behar, excepting Mozufferpore, Durbhanga, Monghyr, Bhagulpore, and Sonthal Pergunnahs, where all the months, excepting October, November and December, were months of great freedom, and Maldah, where January and December only exhibited marked exacerbation, thus corresponding mainly with the incidence of the disease in Bengal. Particulars in relation to the prevalence of the disease in each of the above named districts follow.

53. BHAGULPORE DIVISION.—There was much less cholera in the **Monghyr** district than during any year of the preceding decade (1876-85), excepting 1880. All its circles returned considerably lower mortality than in 1885, notably the Jamalpur and Monghyr towns and the Jamalpur rural area, where the death-rates fell from 19·61, 6·24 and 11·18 per 1,000 of population to 1·47, 1·44 and 4·79 per 1,000 respectively. In the Kharackpur and Sekundra thanas the casualties were nominal, amounting to ·03 and ·07 per 1,000, and the Shaikpura town returned no deaths. The Jamalpur town has hitherto been very subject to cholera, but it is hoped that the new water-supply with which it has been provided will tend further to improve its health status. **Bhagulpore** also experienced the same immunity from cholera as Monghyr, excepting that 1880, 1881 and 1883 were healthier years. All its 13 circles returned lower mortality, the fatality in Banka, Katuria, Madhupura and Kissengunge lying between ·02 and ·08 per 1,000 of population and the Bhagulpore town only exhibiting noticeably high mortality, viz., 4·57 per 1,000. It is, however, to be hoped that the water-works, which will be opened during the current year, will check this preventible loss of life; but to do so, the supply must be extended to all parts of the town, an undertaking which, it is feared, cannot at present be achieved owing to paucity of funds. The increase of mortality which occurred in the **Purneah** district was contributed to by only six (Arrareah, Kissengunge, Matuary, Dhamdaha, Bahadurgunge and Kaliagunge) of its 14 circles, of which the three first named furnished conspicuously high death-rates, viz. 5·66, 2·08 and 2·06 per 1,000 of population respectively. The disease was chiefly confined to, and was most fatal in the Arrareah sub-division, but it was sporadic in character and scattered over the area. The difference between Arrareah and the other sub-divisions where cholera did not flourish to the same extent, is the naturally high and dry position of the former situated in the north-west of the district, which precludes its being subjected to the floods of the Kusi river, while a great portion of the others is swampy, and was well submerged by inundation which was the highest this year since 1872, the rainfall having been unusually excessive. Both the **Maldah** and **Sonthal Pergunnahs** districts escaped the ravages of cholera markedly. In fact, the deaths returned by them were considerably lower than during any year of the preceding decade, 1880 for the Sonthal Pergunnahs excepted. In *Maldah* the immunity from the disease, which was shared by every circle (the mortality in them, ranging from only ·009 to ·89 per 1,000 of population), is attributed to the high flooding of the rivers, which took place in September and October and submerged the greater portion of the district, and which both the Civil Medical Officer and the Magistrate look upon as very beneficial. In the *Sonthal Pergunnahs* noticeable outbreaks of the disease were reported from the Deoghur town and the Pakour rural area. In the former, which was the only circle which returned a high death-rate, viz. 5·74 per 1,000 of population, it broke out twice—once in March among pilgrims from Birbhum, and again in September among others from Gya. The Civil Surgeon refers the outbreaks to importation, but the particulars furnished do not support his statement. The subject, however, does not call for further discussion, having been examined and the true inferences arrived at—*vide* my Annual Report for 1884. In Pakour the prevalence of the disease was attributed to the filthy habits of the people; and in opposition to the views on the subject entertained in Maldah, to decaying vegetation after the floods from the Ganges.

Incidence of Cholera in the Bhagulpore (East Behar) Division.

54. **PATNA DIVISION.**—In the **Patna** district the disease assumed epidemic proportions in June, and continued to prevail with more or less similar virulence up to the end of the year. This is unusual, as its severe phase commences earlier and ceases in October; but it should be observed that the rains were prolonged into October, the falls of that and the preceding month amounting to 6·22 and 12·13 inches respectively, as opposed to 3·11, and 6·85 the normal average. Exceptional mortality occurred only in the Patna and Dinapore towns and in the Dinapore and Bickram rural circles, which returned the casualty-rates of 5·76, 3·38, 4·41, and 3·57 per 1,000 of population respectively. The occurrence of a high death-rate in the Patna town is not surprising, as its sanitary condition, particularly with regard to conservancy and drainage, is very defective. The whole of the drainage of the chowk is now impounded among dwelling-houses, and there are innumerable well-privies polluting the water-supply. For further details regarding this town, Appendix V to this Report. The outfall of the chowk is, however, to be made pucca throughout in 1887-88. In **Gya**, although the incidence of cholera was severer than during the preceding year, it did not on the whole prevail epidemically. It was observed that the mortality caused by the disease was greatest during the rains, and continued to November, which was the most unhealthy month of the year, the rain-fall having been prolonged into October in which month it amounted to 7·75 inches. Of local outbreaks the following may be quoted. In the town of Gya, where the mortality was excessive and the highest in comparison with other circles, amounting to 9·41 per 1,000 of population, a severe outbreak occurred in September and October among the pilgrims who assembled in large numbers at that time, but the disease disappeared on their leaving the town for their homes, the general population not suffering much. It prevailed very badly in the Ruffeunge and Des villages in thana Aurungabad, in the Tikari and Bela villages in Tikari, and in the Kooatha village in Jehanabad. The death-rates in these thanas were the highest next to Gya town, viz., 3·22, 4·35 and 3·76 per 1,000 of population. In the two first named villages the disease is said to have been imported, and to have lingered for a long time owing to the density of the population. It should be noted that 121 deaths from cholera and 44 from bowel-complaints occurred in the 500 lodging-houses for pilgrims in this district. In **Shahabad** cholera prevailed with much severity. It appeared in its severe phase later than usual, that is in July instead of in May, and prevailed most severely in October and November. The mortality, amounting to 3·12 per 1,000 of population, was greater than that of any of the preceding ten years, 1876 and 1883 excepted, during which years, however, it was almost equal, viz., 3·83 and 3·24 per 1,000. Although prevalent throughout the district, its severity was conspicuously felt in the Peru and Dhangaon thanas and in the Buxar town, where the casualty rates stood at 7·18, 5·10, and 6·39 per 1,000 of population. The prevalence of the disease was attributed to excessive humidity of the soil, resulting from an almost unprecedentedly heavy rain-fall (56·11 inches against 40·98, the normal mean average), and from the sub-soil water-level having in some parts of the district been permanently raised by the canal system. **Mozufferpore, Durbhanga**—In both these districts the mortality from cholera was very low, and in both the behaviour of the disease in relation to seasonal severity was identical. The year was characterized by comparative absence of cholera, during the usual Behar cholera season; that is, in the rains, and for its presence in the severest form, in November (when in ordinary years it almost disappears) and December. During this period the disease was wide spread all over the district. In **Durbhanga** however, there was a noticeable exacerbation of the disease in June, but it was confined to only four thanas. The Magistrate of **Mozufferpore** mentions that an extraordinary and unprecedented inundation kept the disease down, and both he and the Civil Surgeon assert that after the people had returned to their homes from the great Sonapur fair, where many cases of cholera occurred, the disease spread over the district. There appear to have been two inundations—one in August following a rain-fall of 16·73 inches in July and 15·49 inches in August, and another in October after 14·56 inches in

September and 5·20 inches in October. These inundations were very extensive and in parts every kutch house collapsed, and they may have had the effect of delaying the period of cholera prevalence and so establishing a coincidence in time between it and the breaking up of the Sonapur fair; but it would be unwise to ascribe the increase of cholera severity to the fair as has been done. In *Durbhanga*, after the considerable rain-fall of July, August and September, during which 46·53 inches of rain were recorded, and consequent flooding and water-logging, the disease gained in strength, so much so that the fourth quarter of the year was, excepting the month of June, the worst period. Dr. Gilligan, the Civil Surgeon, asks why cholera should prevail most during the cold weather when the tanks, wells, and water-courses are full, and the water in them is comparatively pure. He is inclined to believe, although admitting that cholera is the cause of many and most of the deaths returned under that head, that many of the events occur from what is really only acute bilious diarrhoea due to chill caused by the water-logged condition of residential surroundings. It was noticed that the largest number of deaths occurred among the very young and very old, and it is stated that the disease, which prevailed in epidemic form in the town of Somashtapur in the Tajpur sub-division, was attributable to the use of the filthy water which had accumulated in hollows. **Sarun, Chumparun.**—Both these districts experienced very considerable immunity from the ravages of cholera, particularly the latter, and all the circles in them shared this exemption, to a more or less extent, excepting Manjhi and Digwara in Sarun, which exhibited higher mortality than in 1885. Nevertheless, while in *Chumparun* not a single circle exhibited exceptional death-rate, in *Sarun* the towns of Revilgunge and Sewan suffered severely, the casualty rates in them amounting to 5·76 and 3·53 per 1,000 of population. It was, moreover, observed that many of the villages in the Bettiah thana in *Chumparun*, which were the least affected last year, suffered most this year, and that after three alleged importations of cholera in the Motihari town in the same district it did not spread.

ORISSA.

55. This division suffered at a higher rate from this death cause than any other division in the Province. In it the victims to the disease numbered 15,175 in 3,651 villages, or at the rate of 4·18 per 1,000 among its population of 3,628,832. Contrasted with the occurrences of 1885, the percentage of villages overruled by the disease was lower by 5·38, and the mortality exhibited a diminution of 1·09 per 1,000 of population; but in comparison with the events of the lustrum 1881-85, there was an enhancement of mortality to the extent of ·23 per 1,000. The three districts composing this division furnished the casualty rates exhibited in the margin in the order of severity. Comparison with 1885 and the lustrum 1881-85 shows that Cuttack and Puri, while furnishing reduced mortality as compared with the former period, exhibited enhancement in comparison with the latter, the diminution being represented by 1·77 and 1·69 per *mille* of population, respectively, and the increment by ·23 and ·80 per 1,000; and that Balasore exhibited the opposite features, viz., increment as compared with 1885 and decrease as contrasted with 1881-85, the former amounting to ·75 and the latter to ·31 per 1,000. In seasonal distribution the disease did not as in former years manifest high severity throughout the year, as August to October were months of great exemption from it. January to May experienced great suffering, particularly March, which returned the largest number of deaths during the year. During June there was a marked abatement; July exhibited considerable exacerbation, and November and December comprised a second period of high suffering, December being the most unhealthy month after March. Taking the districts individually, in Balasore the behaviour of the disease was the same as described above; but in Cuttack the period of

Mortality from, and seasonal incidence of Cholera in the Orissa Division of Bengal.

	Ratio per <i>mille</i> .
Balasore	4·46
Puri	4·29
Cuttack	3·97

exemption commenced and expired one month earlier each way, and in Puri May, June, September and October were the only months of freedom, and July was the worst month and next to it November and December for reasons which will be explained hereinafter. In Orissa the rainy season set in in May and lasted into October with a total fall of 59·54 inches, and during this period 4,916 deaths occurred ; from January to April 4·04 inches of rain fell and was attended with 6,811 deaths ; and November and December yielded 3·09 inches of rain, and during these months 3,448 casualties took place. These data clearly indicate that, whatever part pilgrimage may take in the incidence the disease, deficient rain-fall is intimately associated with its accession in Orissa as in Bengal. The principal features exhibited by the disease in these districts are subjoined.

56. **ORISSA DISTRICTS.**—The disease, although it prevailed with abated intensity in the **Cuttack** district, exhibited much severity in local incidence, but it did not assume epidemic virulence anywhere. The Dhurn-

Incidence of Cholera in the Districts
in Orissa.

sala thana returned under head cholera nearly one-third of its total mortality for the year, the death-rate from this cause amounting to 8·38 per 1,000 of population, and the Aul (8·77 per 1,000), Patamundi (8·16), Kendrapara (4·18), and Jajpur (3·66) thanas, and the Kendrapara town (6·62) were also conspicuously affected. In these thanas lie the principal roads traversed by the pilgrims on their way to and from Puri. This fact inclines the Civil Surgeon to believe that most of the deaths occurred among the pilgrims, and that they communicated and spread the disease to neighbouring villages. But these routes traverse the district from north to south and east to west, so that they affect the greater part of the district, and I think the Civil Surgeon approaches nearer the truth when he associates the exciting causes of the disease to (1) the highly contaminated and impure water which travellers drink from dirty tanks, or even pools by the way side ; (2) the fatigue and exposure of travelling by which the system is brought below par, and becomes an easy prey to the disease ; and (3) the irregular meals and indigestible nature of food consumed, such as cucumbers, melons and crude fruit, parched corn, stale sweetmeats, and other similarly objectionable edibles. He adds that the insanitary condition of the lodging-houses and the germs of the disease left in them by previous occupants are also causes of its spread. In November cholera broke out among the coolies working in the canal at Hookytollah, which spread and passed on to a ship in harbour. The Civil Surgeon visited the locality and found several insanitary conditions obtaining in it. The huts of the coolies were ill-constructed ; very low, so much so that there was not standing room in them, even in the centre ; ill-ventilated, and over-crowded. The conservancy arrangements were defective, there being no sweepers ; the huts were filthy ; cesspits existed ; the people resorted for defecation to the beach and jungle close by ; and the drainage and liquid refuse soaked into the sand. The water-supply also was bad, the wells water being brackish ; and fresh water was scarce, and had to be brought from Jumbo a distance of eight miles. It was apprehended that this evil would be intensified in the hot weather when more coolies would be employed, and when there would be a greater demand for water and greater risk of contamination. The incidence of cholera in the **Puri** district resembled that of Cuttack in point of reduction and severity, but it was noticed that it appeared suddenly in places far apart from each other, and disappeared as suddenly to re-appear at other places. In seasonal fatality, however, it followed the same course as during preceding years ; that is, it became generally more active and fatal during the three periods when pilgrims flocked into the district to attend the three great festivals held in the town of Puri, and that it abated considerably in severity when the pilgrims were absent. The periods referred to are February and March when the Dole jatra was held ; July when the greatest of the festivals, the Ruth jatra, was celebrated, and when there is a very large addition to the population of the town (about 80,000) and the mortality is greatest ; and the Panchak festival which took place in November. I need not, however, recapitulate here the oft repeated conclusions drawn from these facts. They will be found in the Reports of former years ; but it is important to note that the present Health Officer of the Puri town does not support the importation

theory like his predecessor, and ascribes the prevalence of the disease to the same conditions to which the pilgrims are subjected as furnished by Dr. Stewart of Cuttack. Although every circle returned considerably lower mortality, the suffering was pre-eminently great in the urban and rural areas of the Puri thana, where 25·13 and 6·48 per 1,000 of the population died from this cause. In the town there occurred 187 deaths among pilgrims during the car festival, and it appears that most of the cases came from Julsichawra, six miles from the town. The Magistrate ordered the encampment there to be broken up, and it is said that immediately this was effected, the outbreak abated. The usual precautions were taken in the district and town to arrest the progress of the disease, and, in addition, two food Inspectors were appointed in the latter to examine the food prepared for sale to the pilgrims, and the space for each pilgrim in the lodging-houses was increased from 18 to 24 square feet. Nothing can be deduced from the cholera returns of **Balasore** with regard to the influence of pilgrims in spreading it, nor do the local reports furnish any account of the cholera in this district. But it is noticeable that while the whole district forms a pilgrim route from one end to the other, with, perhaps, the exception of Baliapal, this thana suffered more than Jullasore

and Soroh through which the Grand Trunk Road runs from Midnapore to Cuttack, and that Dhamnuggur, which is only touched by the above road at its north-west corner, suffered most—*vide* marginal figures.

CHOTA NAGPORE.

57. This division suffered the least from cholera. The casualties amounted to only 1,340, or at the rate of 30 per 1,000 among its population numbering 4,334,178, the area invaded by the disease being 214 villages. In 1885 there died 6,582 persons, or at the rate of 1·51 per 1,000 of population in 926 villages, and during the lustrum 1881-85, the deaths numbered 2,772, or at 63 per 1,000. The statistics of the four districts composing this division are marginally exhibited. Of these, only Lohardugga presented greater prevalence of the disease and higher mortality in comparison with both the preceding year and lustrum, but not to a noticeable extent. In seasonal severity the law of former years was abided by: Chota Nagpore, June to August being the most unhealthy, and September to December, including April and May, the next unhealthy months, while January to March were months of great freedom. Associating rain-fall with mortality it is seen that in Chota Nagpore, as in Behar in ordinary years, the largest number of casualties takes place during the rainy season. The noticeable features in relation to the prevalence of the disease in these districts are the following.

	Ratio per mille.		Increase or decrease as compared with—	
	1886.	1885.	1881-85.	
Lohardugga	67	20 I	47 I	
Manbhum	13	153 D	90 D	
Hazaribagh	08	327 D	100 D	
Singbhum	02	58 D	23 D	

58. **CHOTA NAGPORE DISTRICTS.**—The mortality from cholera this year in **Hazaribagh, Singbhum** and **Manbhum** was lower than during any year of the past decade, excepting 1880 for Manbhum.

In the *Singbhum* district the only other notable fact is that the closure from use of one of the tanks situated in Madhubazar in the town of Chyebassa, a locality which is noted for frequent outbreaks of cholera, was followed by the cessation of the disease, forcibly indicating the value of a good water-supply as a preventive of cholera. In *Lohardugga* almost the whole of the disease was confined to the Palamow sub-division in which Garwah, Hosseinabad, and Daltongunge suffered the most, returning death-rates of 9·23, 2·42, and 1·24 per 1,000 of their populations respectively, while all the circles in the Sudder sub-division, excepting the urban and rural areas of Ranchi, escaped the disease, these two areas returning the low casualty rates of 05 and 13 per 1,000 respectively. The prevalence of the disease in the Palamow sub-division is referred, contrary to the law in Chota Nagpore, to insufficient rain-fall during April, May and June, the outbreak commencing in

June and lasting up to September. It is mentioned that Garwah and Hosseinabad being situated at the extreme north-west of the sub-division bordering on Rewah could not be visited by the Civil Surgeon, and for this reason the Deputy Commissioner suggests that a senior and experienced Medical Officer be posted at Daltongunge, the head-quarters of the sub-division.

59. During the year under review 49 *European seamen* were admitted into the hospitals for cholera, and of this number 26 died. In addition there occurred one death out of hospital. The average strength of seamen in Port being 2,326 the death-rate of the year

from this cause amounts to 11·61 per 1,000. Contrasted with former periods, it is seen that this mortality, although higher than in the preceding

		Average Strength.	Ratio per mille.
In 1885	...	1,693	4·13
" 1884	...	1,684	21·3
" 1883	...	1,860	19·8
" 1882	...	1,792	22·8
" 1881	...	1,350	24 0

year, was much lower than during any of the other years of the quinquennium cited in the margin. It appears that the disease after having prevailed mildly in the town of Calcutta till September began in that month to exhibit greater severity and to have assumed wider proportions in November. The Port population was consequently simultaneously affected, having in common with the town population enjoyed much immunity from the disease during the period of exemption. In fact, cholera was the only disease which rendered the Port more unhealthy than in 1885.

60. The *Native Floating Population* in the Port furnished 59 deaths from cholera, or at the rate of 2·32 per 1,000 of population estimated at 25,409. This mortality was precisely the same as that which was recorded in the preceding year, but considerably below the average of the quinquennium 1881-85, which stood at 3·92 per 1,000.

SMALL-POX.

61. A pleasant feature in the Sanitary History of the year under review is the very marked reduction in the prevalence and fatality of the loathsome disease Small-pox, as compared with its incidence not only during the preceding year, but also during

PERIOD.	Number of deaths.	Ratio per mille.	Percentage of villages attacked by Small-pox.	NUMBER OF CIRCLES	
				Affected more or less severely.	From which Small-pox was absent.
In 1886	4,049	·06	·97	5	330
In 1885	9,863	·14	2·42	18	272
" 1884	18,533	·28	2·90	53	224
" 1883	9,714	·14	1·73	30	284
" 1882	13,651	·20	2·87	33	280
" 1881	24,371	·36	4·37	43	218
" 1880	22,953	·34	4·86	54	241
" 1879	22,841	·34	4·08	77	171
" 1878	12,410	·18	3·09	30	206
" 1877	8,088	·12	2·04	29	255
" 1876	10,746	·16	No data.	80	206
Mean of the decade 1876-85 ...	15,317	·23	3·16	39	235

all the years of which there are any records. The marginal figures, embracing the decade 1876-85, on the statistics of which some reliance can be placed, illustrate this observation. Extending the enquiry further, I note that in 30 of the 45 districts in the Province the mortality from this cause was lower—in several cases considerably so—than in any year of the decade above mentioned, and that with regard to the remaining 15 districts, where higher mortality is seen, the excess is not, in most cases, great. From Bogra no death was returned. Moreover several Medical Officers have reported—some from personal observation—that many of the cases returned as small-pox were caused either by measles, mild eruptive fevers, or pulmonary complaints. This being the case, the already low death-rate of the Province from this cause must really rank lower. The great immunity from the ravages of the disease which the Province enjoyed this year is no doubt intimately associated with the systematic carrying on and extension of Vaccination within recent years. This subject will again be considered in the pages of this Report devoted to the narration of the History of Vaccination in Bengal; but I may here observe that 55 per cent. of the small-pox mortality occurred in the seven districts of West Behar, to only two of which vaccination has yet been extended from want of establishment, and 31 per cent. from the district of Chumparun.

62. This information is embodied in the marginal table contrasted with that of the decade 1876-85. The figures indicate that throughout the period of comparison the urban circles suffered more from small-pox than the rural.

This is singular, considering that the Compulsory Vaccination Act is in force in the majority, and inoculation is not practised in any of them, at least publicly. The only inference, therefore, is that vaccination is neglected, or that the provisions of the Compulsory Enactment are not properly and fully utilized, in very many of them.

63. The circles, individually taken, also naturally enjoyed the same exemption from small-pox as the districts as wholes, for it is found that only five of them (named below) against 18 in the preceding year returned noticeably high death-rates from the disease—

TOWNS.			RURAL CIRCLES.		
Deaths in—			Ratio per mille.		
1886. 1876-85.			1886. 1876-85.		
Urban Circles	...	204 1,602	...	08	66
Rural „	...	3,845 13,715	...	08	21
Daudnuggur in Gya	...	2.12	Adapore in Chumparun	...	2.32
Dumraon in Shahabad	...	1.45	Motihari in ditto	...	1.22
Sitamurhi in Mozufferpore	...	1.14			

64. In relation to this point the experience of former years is repeated by the year under review, inasmuch as the hot months of March to June were the most unhealthy, as they again returned the largest number of the casualties, viz., 2,431 against 1,618 during the remaining eight months of the year.

65. The statistics under this head have for years past shown that the largest proportion of the mortality from small-pox occurs among infants and children. This year is no exception to the rule, as 74 per cent. of the total mortality from this cause was borne by them. Reckoned on population, the mortality of infants

under one year from small-pox stands at .62 per 1,000. I regret I am unable to furnish the death-rates in relation to population under the other ages, for while under standing orders on the subject deaths from small-pox are recorded at the ages marginally mentioned, the census of the population has been taken at the ages from 1 to 5 and 5 to 10 years instead of from 1 to 6 years and 6 to 12 years.

Chief particulars relating to Small-pox in the Districts.

66. A few points referring to the incidence of small-pox in districts claiming attention are sub-joined.

Bankura.—It was observed that the neglect of vaccination for four years in certain villages in thana Bankura resulted in a smart outbreak of small-pox in them. In *Midnapore*, although the Panchkura thana suffered the most this year, it returned only 10 deaths against 73 in the preceding year. An outbreak of the disease in thana Gungarampore in the *Dinajpur* district which spread over 18 villages was traced to infection. There were no deaths from small-pox in the towns of Comillah and Brahmanberiah, and only eleven in the rest of the district of *Tipperah*. This immunity is attributed to the introduction in 1883-84 of vaccination into the whole district. *Shahabad* is another district in which the utilization of vaccination during only two years has resulted in a sensible decline of mortality. In the *Sonthal Pergunnahs* district the largest amount of small-pox occurred in the Sub-divisions of Rajmahal. It prevailed most severely in the Damun among the Paharias who are averse to vaccination. In the *Puri* district the largest number of deaths from the disease was returned from Khurda thana, viz., 47 out of the total for the district of 92.

67. Small-pox was absent from the **Port of Calcutta** both among the *European seamen* and *Native Floating Population*; but four steamers with pilgrims from Mecca arrived in Port with the disease on board, one, a German ship, concealing the disease.

FEVER.

68. The statistics illustrating the prevalence and fatality of Fever in the Province during the year under review in contrast with those of the preceding decade are presented in the marginal table. They indicate that the mortality was higher than during any year of the period with which comparison is instituted; but that the *extreme virulence* of the disease itself was confined within narrower limits than during any year of the same period except 1885. Nevertheless, I believe, and am supported in my belief by local testimony in not a

Prevalence and fatality of Fever.

PERIODS.	Number of deaths.	Ratio per mille of population.	Number of villages affected.	CHARACTER OF PREVALENCE— Number of <i>Circles</i> in which the disease prevailed		
				With greatest virulence.	With less activity.	Normally.
In 1886	1,057,296	15.97	149,905	24	180	471
In 1885	1,042,142	15.75	147,675	24	154	469
" 1884	986,233	14.00	147,408	20	116	504
" 1883	913,766	13.81	142,731	27	130	491
" 1882	929,943	14.06	134,812	58	108	477
" 1881	940,911	14.23	141,978	218	107	289
" 1880	689,605	10.43	120,045	124	112	437
" 1879	622,260	9.41	118,970	80	108	479
" 1878	742,887	11.23	123,340	135	149	389
" 1877	711,037	10.75	111,925	135	112	418
" 1876	561,530	8.49	No data.	75	91	500
Mean of the decade 1876-85 ...	812,031	12.27	128,104	91	125	445

few instances, that the numerical increase in the fever casualties is, to no small extent, due to improving registration.

69. To the total mortality of the year from fever the urban circles contributed 29,615 deaths, or in the proportion per *mille* of their population of 12.29, and the rural 1,027,681 deaths, or at 16.11 per 1,000. The figures of the preceding decade are—for the urban circles, deaths 36,586, ratio of deaths 15.18, and for the rural circles 775,445 and 12.16 respectively. These data indicate that while during the decade the urban population suffered on the whole considerably more than the rural, this year the contrary was the case.

70. This subject will be better understood if the figures appertaining to each division of the Province are separately considered, for the seasonal incidence of fever in Bengal and Orissa differs from that obtaining in Behar and

Seasonal incidence of Fever in the Province.

Chota Nagpore. This will be done hereinafter when dealing with the fever

	Deaths in 1886.	Rain-fall in 1886.		Deaths in 1886.	Rain-fall in 1886.
January	89,884	1.17	July	67,406	16.39
February	68,988	0.09	August	63,144	15.28
March	74,204	2.24	September	89,332	14.87
April	77,069	9.95	October	104,657	4.76
May	71,491	6.75	November	132,654	3.31
June	65,208	10.74	December	133,199	1.17

statistics of each division; but I may here, however, present marginally the figures of the entire Province for 1886. They will be found to maintain, on the whole, the law of former years, which, briefly stated, is that with increasing temperature and rain-fall up to July, monthly mortality is low, but from August onwards it increases rapidly, the last quarter always showing a preponderating death-rate.

71. Pre-eminent suffering from fever was experienced in the districts

Districts in which Fever prevailed most severely.

	Ratio per mille.		Ratio per mille.
Jalpaiguri	31.01	Dinajpur	23.92
Shahabad	29.20	Bogra	22.21
Pubna	27.68	Nuddea	21.26
Rangpur	27.12	Bhagulpore	21.08
Rajshahye	24.86	Gya	19.07
Mouglhyr	24.07		

named in the margin. It is gratifying to find that Nuddea has, from occupying the first position in this list in preceding years, descended very low in it, indicating very considerable improvement in its health status, so far as fever is concerned.

72. A brief review of the incidence of fever in the four great Divisions

General history of Fever in the Divisions of the Province and in Districts.

outbreaks of the disease are subjoined.

of the Province and in Districts, and a *resumé* of interesting or instructive local

BENGAL.

73. Of the population amounting to 35,073,770, of Bengal Proper, 601,718 died from Fever in 83,376 villages, or in the proportion of 17·15 per 1,000. 1885 showed 588,986 deaths, or 16·79 per 1,000 in 82,326 villages, and the lustrum 1881-85, 582,688 deaths, or at 16·61 per 1,000. These statistics indicate that a somewhat larger area of Bengal was pervaded by the disease in 1886, and that the mortality was higher than during both the periods with which comparison is instituted, as an additional 1,050 villages were attacked and the death-rate was higher by ·36 per 1,000 of population as compared with 1885, and ·54 per 1,000 as contrasted with the proportion of the lustrum. It is also found that this division of the Province

	Number of deaths in 1886.	Rain-fall in 1886.	Mean deaths during decade 1876-85.	Average rain-fall of preceding years.
January ...	57,651	·15	46,894	·42
February ...	43,777	·07	36,500	1·06
March ...	47,560	2·93	37,034	1·62
April ...	47,086	1·53	36,688	2·86
May ...	43,331	9·02	32,526	7·14
June ...	35,613	12·84	28,143	14·90
July ...	36,266	17·46	30,026	14·92
August ...	40,539	17·13	34,081	14·70
September ...	43,231	15·24	37,979	11·15
October ...	53,198	3·48	47,233	4·81
November ...	71,622	·18	62,613	·49
December ...	81,944	·05	66,203	·30

suffered the most from the malady. The marginal figures illustrate its seasonal incidence during the year under review and during the decade 1876-85. They indicate that from May to August or September mortality is least, that it is greatest in the last quarter, while the first four months

occupy an intermediate position. In this there is a correspondence with rain-fall and its results. As long as the country is saturated or covered by repeated falls, fever mortality is low, but rises rapidly with the cessation of rain and the advent of cold.

74. **BURDWAN DIVISION.**—Of the population in this Division estimated at 7,393,954, 102,188, or 13·82 per 1,000 were carried off by fever in 22,318 villages. Compared with the preceding year, there was an increase in the number of villages affected of 817, but a decline in mortality of ·97 per 1,000 of population, and in contrast with the lustrum 1881-85 there was a sensibly greater diminution of the

	Ratio per mille.		Ratio per mille.
Burdwan ...	15·09	Hughli and Serampore ...	13·88
Birbhum ...	14·63	Bankura ...	12·63
Midnapore ...	14·55	Howrah ..	8·96

	Difference in mortality.	Difference in percentage of villages attacked.		Difference in mortality.	Difference in percentage of villages attacked.
Burdwan ...	2·69 D	1·39 D	Bankura ...	·28 I	4·12 I
Hughli ...	1·86 D	·56 I	Midnapore...	·02 I	1·63 D
Birbhum ...	1·62 D	8·75 I			
Howrah ...	1·05 D	1·07 D			

casualty rate, viz., of 3·58 per 1,000. The contributions to the divisional mortality by its six districts are given in the margin in the order of severity. The extent of prevalence and fatality of the disease compared with its incidence during the preceding year varied. The differences are also shown in the margin. The

fever histories of these districts for the year under review are subjoined.

75. **Burdwan.**—If the marginal figures, comparing the mortality of the year under review with that of the lustrum 1881-85, can be relied upon, it must be said that the unenviable notoriety for fever attaching to this district has vanished. The records of the Dispensaries, however, show that the progressive decline in attendance at them for treatment for fever since 1882 ceased in 1886 with a slight increase. The only reported noticeable outbreaks of the disease in this district are those which occurred in the town of Kalna and in thanas Purbasthali and Kalna during October to December. The severity of the disease was very great in these localities, the death-rates amounting to 17·98, 18·42, and 17·50 per 1,000 of population respectively. With regard to the town, the Sub divisional Officer reports that it is the most unhealthy spot in the whole sub-division, and that its sanitary condition is

	Ratio per mille.
1886 ...	15·09
1885 ...	17·78
1884 ...	18·81
1883 ...	23·35
1882 ...	28·86
1881 ...	23·65

very bad. In **Bankura** the incidence of the disease was identical in feature to that in Burdwan, except that there occurred only 288 more deaths as compared with the preceding year,—*vide* figures in the margin. This increase was contributed to by thanas Simlapal, Soopur, Raipur, Gungajulghatti and Bankura to the extent of 4.47, 4.24, 1.76, .86 and .64 per 1,000 of population respectively, and yet Simlapal and Soopur,

	Ratio per
	<i>mille.</i>
In 1886 ...	12.63
In 1885 ...	12.35
" 1884 ...	13.56
" 1883 ...	16.71
" 1882 ...	26.40
" 1881 ...	22.54

which are also among the areas in the district which furnished the highest mortality, and Raipur, are said to escape malarious influence considerably owing to their elevated positions. Of the areas which returned the highest death-rates, Kotalpur and Bishenpur, which bore the greatest burden thereof, viz. 15.87 and 14.34 per 1,000, and Indas, which furnished a death-rate of 12.71 per 1,000, are believed, owing to their bordering on the Burdwan district without any river or any other line of demarcation between them, to be subject to the same fever which prevailed in Burdwan. They are, moreover, low-lying, swampy, have imperfect drainage, and abound in low dense jungle. Gungajulghatti and Sonamukhi, where also the suffering was great (death-rates per *mille*, 13.62 and 11.23), have more or less obstructed drainage from various causes too long to enumerate here. With regard to the town of Bankura, where the death-rate amounted to only 9.86 per 1,000, the Assistant Surgeon reports that malarious fever is seldom seen in it, while malarial cachexia is unknown, and that the recorded deaths from fever are generally contributed by the outlying villages and small hamlets which form a part of the Municipality. With regard to the Bishenpore town where also the fever mortality was low, viz., 9.63 per *mille* of population, the Sub-divisional Officer notes that, during his experience of this town for the last 12 years, he does not recollect to have witnessed such a healthy year as the present, and he ascribes this "sudden and conspicuous change" more to "divine clemency than to any human efforts." **Birbhum.**—This is another district which has to be congratulated for the steady decline of fever mortality in it from 25.31 per 1,000 of population in 1881 to 14.63 per 1,000 during the year under review. All the circles in this district, excepting Sacoolipore, took a share in this improvement; but Sacoolipore has always returned a high mortality. It is a low-lying alluvial tract with many undrained bails, and its water-supply is bad. The Soori town enjoyed exceptional immunity from the disease, as the death-rate fell by so much as 5.86 per 1,000 of population in contrast with the rate of the preceding year. This incidence and the general improvement of its health status elicited the observation "that medical men had little to occupy them" in this town. It was noticed that the heavy rains of September and October was followed by much increase of mortality so as to render the fourth quarter of the year the most unhealthy. Fever prevailed in the **Midnapore** district with much the same severity as in the preceding year, but with abated virulence as compared with the four years preceding 1885. It appears therefore that the district is improving, on the whole, in health as regards this disease. It was observed that in the eastern, central and southern parts of the district the influence of the disease is on the ascendant; while in the other portions, particularly the laterite tract and along the sea-belt, it is abating. The observations of Dr. Gupta, Deputy Sanitary Commissioner, Metropolitan Circles, in village Kristonuggur, in thana Nundigram, induce him to believe that there is no malaria in this part of the country, and that this is owing to its soil containing salt, which is "germicide and kills bacillus malarie if such exists." **Hughli.**—There was less fever in this district than during the past five years; but its Serampore division did not experience the same immunity. In the towns in this Sub-division, in addition to the intermittent fever of malarious origin, "remittent fever was also unusually severe at the end of the monsoon, particularly in October and November, when many cases of a low adynamic type, accompanied with diarrhoea, extending over three weeks, were met with, some scarcely distinguishable from enteric fever." A similar fact was noted by Dr. Joubert during his tour in Hughli. Cases of very fatal cerebro-spinal fever were also met with. In the Bansberiah Municipality fever of a malarious character prevailed with much severity. It is said that when it first broke out in 1861 in a "deadly" form, it reduced the people by nearly one-half, and now many

a homestead is to be found covered with "luxuriant jungle." The Chairman of this Municipality reports that the town is literally covered with mango-topes, and abounds in rank vegetation, and that the Suressutti khal, the water of which is used by a portion of the people, is obstructed by dams. Orders have been passed to remove the dams, but the Chairman suggests that the water of the Damuda, coming through Selimabad, should be made to flow into the khal. It would appear that there was more fever in the **Howrah** district than during the past lustrum, but it is evident from the returns that both the present and past fever statistics of this district are altogether unreliable.

76. PRESIDENCY DIVISION.—In this Division fever visited 17,036 villages, and carried off 135,800 of the population, numbering 7,771,693, or at the rate of 17·47 per 1,000. In 1885, 16,601 villages were attacked and 20·11 per 1,000 of the people died, and during the lustrum 1881-85 the death-rate stood at 21·61 per 1,000. This comparison indicates that with an increase of area pervaded by the disease was associated a considerable reduction of mortality. The five districts

	Ratio per mille.		Ratio per mille.
Nuddea ...	21·26	Khulna ...	17·56
Murshidabad ...	18·33	24-Pergunnahs	12·91
Jessore ...	18·03		

constituting this Division returned the casualty rates marginally exhibited in order of severity. In comparison with the outcome of the preceding year, the disease was present in all these districts excepting 24-Pergunnahs, in a larger number of villages, conspicuously so in Murshidabad, where the percentage of villages attacked was 87·80 against 76·87 in 1885; but the mortality was lower in all the districts without exception, pre-eminently in Nuddea and next in Jessore, where the decline in mortality is represented by 5·59 and 3·41 per 1,000 of population respectively. The main facts connected with the incidence of the disease in these districts are subjoined.

77. 24-Pergunnahs.—The mortality from fever in this district was low,

	Ratio per mille.		Ratio per mille.
In 1886 ...	12·91	In 1881 ...	16·60
		" 1880 ...	14·09
In 1885 ...	14·25	" 1879 ...	13·60
" 1884 ...	14·16	" 1878 ...	17·40
" 1883 ...	14·70	" 1877 ...	15·79
" 1882 ...	15·63	" 1876 ...	14·89

lower than during the past decade—*vide* marginal figures; but I believe that these figures are very defective, for the grave causes of the disease, the most prominent of which are referred to hereinafter, must produce a higher mortality. The reports show that the drainage of the

Baraset, Bussirhat and Dum-Dum sub-divisions is defective throughout. The Chairman of the Naihatti Municipality, however, is of opinion that the new Hughli bridge has assisted in improving the water outlets of a part of his town. In the Baraset sub-division the conservancy arrangements and water-supply are also exceedingly bad. In the Bussirhat sub-division the old bails and tanks have gradually silted up, and rain water has no discharge outlet; the river water becomes brackish during the hot weather; and the dead are buried within house premises. The serious effects on health caused by the silting up of the Nowayee and Soonteo nuddies have been fully described in my Annual Report for 1884, page 63, and in my special reports on the subject to Government. The local reports again mention this as well as the silting of the Nawal and Lazooee nuddies as responsible for a great portion of the fever in this district. The Sub-divisional Officer of Dum-Dum states that the Nawal nuddi, formerly an open channel from the Hughli at Ichapore to the Biddyadhuri river, has disappeared, and that this has had a bad effect on the health of the people. The Cantonment Magistrate of Dum-Dum also speaks of the silting up of this nuddi as affecting largely the health, comfort and well-being of the people. The nuddi is now "a long depression of bund-ed tanks, reaches of still water, and swamps covered with alternately growing and decaying vegetation, creating a malarious condition of the atmosphere which has a most deleterious effect on the health of the people." In several villages in the Baraset sub-division fever was found by the Deputy Sanitary Commissioner, Metropolitan Circles, to be very badly prevalent. Both adults and children presented tumid abdomen with enlarged spleen and liver, and were weakly and anæmic. Dr. Gupta characterizes the fever as of the worst type he had seen for a long time. It appears that the great scourge of the Baraset Municipality is the fever which has been prevailing in

it since 1861. The Chairman states that it is epidemic in character; that no constitution is proof against its attack; that it is of a "terrible" type hard to bear; that it comes on when the moon is full and when it is totally "dark;" that general prostration and loss of appetite for days together are the results when it has left a person; and that when enlargement of the spleen and liver affections supervene, the chances are that death ensues. He is of opinion that "the only way to drive out this scourge is the re-excavation of the Lazooee and Soontee rivers"; but he regrets that the reiteration of this suggestion for the last 20 years has not resulted in its having been acted upon; and he urges that it should be no longer neglected owing to financial considerations, as the population of the locality is steadily decreasing. When on tour in this district Dr. Gupta found the stench from the canals in Baliaghatta and from the Salt-water Lakes to be most overpowering. The places referred to all lie to the north and east of Calcutta. In short, the greater part of the 24-Pergunnahs district is water-logged, and the excessive dampness of the soil resulting from this gives rise to considerable sickness in the form of malarial fever and bowel-complaints.

	Percentage of villages attacked.	Ratio of deaths per mille.
In 1886	94	21.26
„ 1885	89	26.85
„ 1884	86	29.22
„ 1883	86	27.60
„ 1882	92	30.50
„ 1881	94	35.54
„ 1880	96	29.98

Nuddea.—I am glad to record that, although fever was somewhat more widespread this year, it was very considerably less fatal than in any of the past six years during which it prevailed in epidemic form in this district—*vide* marginal figures. The returns show that every circle in the district, 31 in number, shared in this immunity, excepting Jaguli,

as compared with 1885 and 1881, Chagdah with 1881, Nowpara, Kumarkhalli, Baluka and Bhadulia with 1882, Dowlatpore with 1881 and 1882, Kalupol with 1883, and the Meherpore town with 1885. The Kushtea town appears to have suffered more severely this year than during all the past years under notice. It is reported that the fever mortality includes many cases in which the disease has become chronic and complicated with anæmia, dropsy and enlarged spleen, and which, on the advent of the cold weather, were attacked with severe dysentery and acute pulmonary affections and succumbed to them, being unable to resist the vicissitudes of temperature, owing to insufficient clothing, poor food, and lowered vital stamina. In seasonal incidence the disease while exhibiting much severity before the rains had set in, became virulent and highly fatal after their cessation in October, so as to render the fourth quarter of the year the most unhealthy, maximum mortality occurring in November. Although the care which has hitherto been bestowed in registration has, it appears, been somewhat relaxed, particularly in the towns, I agree with the local authorities that the district has, to a great extent, recovered its normal standard of health so far as fever is concerned. **Jessore.**—This is another district in which the disease prevailed with considerable lower severity than since 1880; but a large number of villages in the Sudder, Narail, and Magura sub-divisions and village Kotechandpur in the Jhenidah sub-division, are said to have suffered very much, the prevalence of the disease in them being referred to bad drinking water, obstruction of drainage, general uncleanness, &c. There was, on the whole, less fever in **Murshidabad** than during the preceding quinquennium; but the Assanpur and Gorabazar thanas and city Murshidabad suffered markedly, returning the death-rates of 36.77, 29.20 and 33.13 per 1,000 of population respectively, and a very severe local outbreak occurred in certain villages in thana Gowas, which was attributed to the dense jungle which abounds near them, but it readily yielded to treatment with the cinchona febrifuge which was sent by the Civil Surgeon, and which was much appreciated by the people. The **Khulna** district experienced less suffering from fever this year than since its creation in 1882; but while prevailing with normal severity, it suddenly assumed a very virulent type in November, and was unprecedentedly fatal in December, particularly in thanas Dumuria, Bagirhat, Magura, Katuria and Rampal. Assistant Surgeon Umesh Chunder Ghose, Deputy Superintendent of Vaccination, Metropolitan Circles, notes that in the Satkhira thana 79 per cent. of the children examined by him were found to have enlargement of the spleen; that in several villages in thana Magura the disease was present in every house; and that in some villages in thana

Kalarooa, which suffered much from fever, the river Betna, which runs by them, has silted up. and from various causes its water becomes so bad as even to kill the fish. It was noted by the Civil Surgeon that the good effects of even partial drainage were most striking during the prevalence of the fever in November and December; for the town of Khulna, which is partially drained, suffered in a minor degree, while the villages on the opposite side of the river, which have no drainage, suffered to an alarming extent. The causes which were in force in the Backergunge district (*vide* paragraph 81 of this Report) appear to have been in operation in Khulna.

78. RAJSHAHYE DIVISION.—In this Division the casualties from fever

Incidence of Fever in the Rajshahye Division.

numbered 199,649, or at 25·81 per 1,000 of its population estimated at 7,734,733 against 171,664 deaths, or at 22·19 per 1,000 in 1885 and 148,997 deaths, or in the proportion of 19·26 per 1,000, during the lustrum 1881-85; and the number of villages which were affected was 21,373 against 21,746 in the preceding year. These figures show that a somewhat smaller area was affected, and that the mortality was considerably higher, particularly in comparison with the lustrum above mentioned. This division of Bengal suffered the most. The

	Ratio per mille in 1886.	Difference in mortality as compared with 1885.
Jalpaiguri ...	31·01	7·80 I
Pubna ...	27·68	2·05 I
Rungpur ...	27·12	4·40 I
Rajshahye ...	24·86	·83 I
Dinajpur ...	23·92	6·04 I
Bogra ...	22·21	1·00 I
Darjiling ...	16·35	5·21 I

mortuary statistics of the seven districts in it are given in the margin in the order of the severity of the casualties, and they indicate that the fatal results were greater than during the preceding year in all the districts, prominently so in Jalpaiguri, Dinajpur, Darjiling and Rungpur. The history of fever in these districts is given below—

79. Dinajpur.—This district experienced a severer fever year than any since 1876, excepting 1877. All the circles in the district contributed, to a more or less extent, to the increment in the death-rate as compared with 1885, excepting Parbutipur, where the mortality was the same—22 per 1,000; but inordinate suffering occurred in Pirganj (death-rate 31·62), Thakurgaon (28·13), Chintamon (27·79), and Birganj (27·34). Fever begins to prevail in this district during the rains and continues to progress with severity to the end of the cold season. During the cold weather those whose constitutions have been shattered and debilitated by previous attacks of the disease mostly succumb to it. This year the rain-fall amounted to 74·52 inches against the normal average of 58·44 inches. In the **Rajshahye** district fever prevailed to a somewhat greater extent than during the preceding decade, excepting in 1881, 1883 and 1884. Its incidence was greater during the last quarter of the year, and pre-eminent mortality occurred in the Belur, Nattore and Puteah thanas, where the death-rates stood at 38·48, 28·98, and 27·42 per 1,000 of population. Generally it was noticed that the northern portion of the district suffered less than the southern. The District Engineer, who visited the Hoja nuddi during the year, says that it is much obstructed by fishing weirs, and that many burials take place along its banks; and that although during the last two years the water has been of better quality in consequence of inundations, things will never be on a proper footing in the part of the country which the Hoja drains, till it is well opened out to allow the water to flow freely. Fever prevailed more

	Ratio per mille.		Ratio per mille.
In 1886 ...	27·12	In 1881 ...	14·60
.. 1885 ...	22·72	.. 1880 ...	9·92
.. 1884 ...	17·09	.. 1879 ...	9·62
.. 1883 ...	15·68	.. 1878 ...	11·28
.. 1882 ...	11·49	.. 1877 ...	11·96
		.. 1876 ...	5·86

extensively and fatally in **Rungpur** than in any year for which records are available. A comparison with the returns of the past decade (given in the margin), which are more reliable than those of anterior periods, shows that the increase of mortality in 1886 was very great. In fact,

this district stands fourth on the list of the most severely fever-stricken districts in the Province. Dr. Dutt, the Civil Surgeon, is of opinion that the extraordinary rise in the death-rate of the district cannot be due entirely to improved registration, but also to the greater prevalence of sickness. All the circles in the district returned considerably enhanced death-rates over 1885, excepting the Rungpur town and the Kaliganj thana. The circles in which the greatest suffering was experienced were Mahigunge (42·33 per 1,000), Kumargunge (34·37), Pirganj (30·46), Sundergunge (29·46), and Sadullapur (28·05). The reduced

prevalence of fever in the Rungpur town (where, however, the casualty-rate was not low—27·92 against 31·08) during this year of extensive fever prevalence is attributed to greater attention having been paid to its sanitary arrangements. The main features which distinguish most of the severely fever-stricken areas have been recorded in former reports. Briefly stated, “they represent depressed basins between the rivers with an intermediate system of tributaries more or less choked, silted and communicating with a number of bhils which they insufficiently drain.” It is observed in Rungpur that the quantity and distribution of rainfall mainly influence the fever prevalence. The mortuary returns go to show that October, November and December were the most unhealthy months, when most of the fever-stricken people died of the sequelæ of the disease, aggravated by the sudden advent of the cold weather acting on debilitated constitutions. Fresh attacks of fever were few, but pulmonary and enteric complications were the chief causes of death in patients having enlarged spleen and liver.” **Bogra.**—In this district also the prevalence of fever was greater than during the preceding decade, and all its circles, excepting Panchbibi, returned higher death-rates. The disease was observed to prevail most in the Sherepur and Nawabgunge thanas, and here the mortality stood at 29·79 and 27·55 per 1,000 of population. This great suffering is referred to these thanas being very damp and full of dense jungle. **Pubna** also experienced a very bad fever year, and returned a mortality in excess of that of any year of the decade 1876-85. It stands third on the list of the most severely fever-stricken districts in the Province. The circles of

	Ratio per mille.		Ratio per mille.
Serajganj town	... 37·93	Raiganj thana	... 29·26
Chatmohur thana	... 33·15	Dulai	... 28·98
Serajganj ..	... 30·78	Pubna	... 27·84

greatest suffering were those named in the margin, and they, excluding Dulai and including Ullapur, shared among themselves the excess mortality of the year. The Serajganj town is in an extremely unhealthy condition. I enquired into the cause of the fever in this town when inspecting it, and found that in the open, unshaded coolie lines with good pucca wells, the health of the operatives was good, but that those who came from Bengali villages, overgrown with jungle, riddled with pits and excavations, and badly drained, who use kutchha wells and bury their dead in their homesteads, were very unhealthy. Places at a short distance apart from each other exhibited marked difference as to health. The pits above referred to are a mile in length in the centre of the ganj, and the local opinion is that, unless they are filled up and converted into a largo tank and a garden, the people will always suffer from fever. The unhealthiness of Dulai is attributed to its scanty water-supply, and that of the district generally to the insanitary conditions which obtain in it, and, in addition, to the houses being damp and improperly constructed. The history of the Jail shows that many of the admissions into it during the year were suffering from malarious poisoning, those received from the Serajgunge sub-division being the worst. Dr. Owen, the Civil Surgeon, is of opinion that the lives of several of these men were saved by admission into jail. In **Darjiling** the mortality from fever was unprecedented, every circle contributing to the excess, and Kurseong and Phansedewa returning the bulk of it, viz., 21·64 and 19·68 per 1,000 of population respectively. As usual the disease prevailed noticeably in the Teesta and Rungeet Valley in the Sudder station of Darjiling, in certain villages in the Terai, and in the Nijkaman Tea Estate. Four cases of typhoid fever appeared in the Darjiling town, of which three were clearly traced to importation, and one was of local origin having occurred in the Convent School, the sanitary condition of which was unobjectionable. In the Kurseong town, remittent fever complicated with pneumonia was fatally prevalent during the spring months, to which some Europeans succumbed. Of all the districts in the Province, **Jalpaiguri** was the most severely afflicted with fever. It returned

	Ratio per mille.		Ratio per mille.
In 1886	... 31·01	In 1881	... 19·32
.. 1885	... 23·71	.. 1880	... 16·00
.. 1884	... 18·25	.. 1879	... 10·87
.. 1883	... 13·40	.. 1878	... 16·87
.. 1882	... 13·99	.. 1877	... 11·20
		.. 1876	... 6·29

a mortality considerably in excess of that of any year of the preceding decade (*vide* marginal figures), and this exacerbation occurred in every circle excepting the Jalpaiguri town, where the death-rate fell from 14·47 in 1885 to 10·19 per 1,000 of population. The suffering was great in all the

circles, Boda, Salbari, Mynaguri, and Jalpaiguri bearing the greatest burden of it with casualty rates amounting to 34·14, 33·91, 33·15, and 32·14 per 1,000 respectively. It is much to be regretted that this great rise in the prevalence of the disease has not been satisfactorily explained by the Civil Medical Officer of the district.

80. **DACCA DIVISION.**—The returns of this Division show that 15,513 of its villages were invaded by fever, against 14,861 in 1885 and that 119,170 succumbed to it out of a population of 8,700,939, or at the rate of 13·69 per 1,000, in opposition to 104,335 deaths, or at 11·99 per 1,000 in 1885 and 95,698, or at 10·99 during the lustrum 1881-85. It thus appears that the disease extended to much wider limits

	Ratio per mille.
Backergunge ...	16·79
Dacca ...	14·24
Mymensing ...	12·43
Faridpur ...	11·72

and caused a higher mortality. The four districts composing this division returned the death-rates shown in the margin. Compared with the outcome of the preceding year, it appears that, excepting Mymensing, larger areas were overrun by the disease in all the other districts, the excess percentages of villages pervaded in Dacca and Faridpur being very considerably greater, viz., 24·45 and 17·52 respectively; and that the mortality was higher in all of them, the increment in Backergunge and Mymensing being noticeably large, viz. 2·42 and 2·37 per 1,000 of population respectively. A review of the distinguishing features connected with the prevalence of fever in these districts is subjoined.

81. The returns show that there was more fever in the **Dacca** district in 1886 than during any year of the preceding decade excepting 1881; but the Civil Surgeon ascribes the numerical increase in the deaths recorded to erroneous diagnosis of the disease, as deaths from ailments presenting febrile symptoms were, to his knowledge, in many instances reported as having occurred from fever, and to better registration, inasmuch as the Jail and Dispensary records and public opinion go to show no enhancement of fever prevalence beyond the normal. The registration may have improved, but it appears to me that in the majority of the circles little or no attention is yet paid to the subject. Hurrirampur, Jaffergunge and Manickgunge again, as in years past, presented the highest death-rates, viz. 22·31, 21·66 and 18·76 per 1,000 of population respectively, from causes which have often been furnished in the reports of previous years, and which, briefly stated, amounts to defective drainage. On the subject of inundations affecting health, the Civil Surgeon pointedly observes that, "the inundation which is of annual recurrence is perhaps the saviour of the town and district, washing out and cleaning all the accumulated filth and stagnant collections of water of the preceding year; and, although the laying up of the saturated soil is accompanied and followed by malarious affections, cholera, &c., yet without the inundation it is more than probable that there would be no healthy season at all, and certainly many more of the present filth diseases." Although **Faridpur** experienced a severer fever year than the past, yet the disease was not highly fatal on the whole, or in any particular circle excepting in Belakandi, which returned a death-rate of 22 per 1,000 of population. As usual, the fourth quarter of the year was the most unhealthy; but this year the first quarter also presented nearly the same feature. The steeping of jute, which is extensively carried on in the Kumar and other rivers in this district, is reported to have had some share in promoting unhealthiness by impregnating their water with organic matter. **Backergunge** is another district in which the severity of the disease was greater than during any year of the preceding decade, excepting 1882, when the mortality was only slightly in excess. While prevailing with mildness generally, it was pre-eminently fatal in the Barisal, Nalchitti, and Mendigunge thanas, where the death-rates amounted to 31·35, 27·67, and 25·67 per 1,000 of population. The Deputy Sanitary Commissioner, Eastern Bengal Circle, found, during his tour in December, fever intensely prevalent in many villages, not only in the above named thanas, but also in thanas Gournaddi, Surupkati, Jhalokati, and Backergunge. In the villages of Banpur and Backergunge, in the last-named thana fever prevailed with great severity among the Christians; but all the persuasions of Mr. Fasson, the Magistrate, to clear their homesteads of stagnant water and decaying jungle, proved abortive, although priestly authority and police influence were brought to bear on them. In thana Sarupkati, and in fact in the whole of the Perozepur sub-division in which this thana is situa-

ted, the water-supply is very bad, but the endeavour of the Magistrate to improve it, elicited the reply that, "the universal saturation of the soil by strongly saline water percolating inward from the sea and great tidal rivers was an insuperable obstacle to the obtaining of really drinkable water over a great part of the sub-division." In Nalchitti the town suffered the most, but here the habits of the people are very filthy, the drainage is bad, and it is closely surrounded by a mass of jungly homesteads. The Assistant Surgeon says that the fever of the district, which is of a malarious type, is not of itself of a fatal nature, but that death results from the serious complications of lung and brain (not of spleen, the enlargement of which is not common, in fact scarcely met with) which supervene, owing to neglect of treatment on the part of the sufferers; and that the peculiar local conditions of the district, such as damp climate, heavy rain-fall, flooding of the country which remains submerged for three or four months, cause the disease. The fever of this year was of unusual severity, and partook the character of a local outbreak confined to the districts of Backergunge and Khulna, the former not suffering, as a rule, much from malaria. The great severity—greater than in any year of the past decade—of fever in the **Mymensing** district is accounted for as follows by the Civil Surgeon:—"Malaria is rife in this district; the country is damp; the variations of temperature are great; the cold is rather raw than bracing; the whole district is more or less intersected with water-channels. There are also in the district two specially unhealthy tracts, viz., the Terai land along the foot of the Garo Hills, which run along the whole northern boundary of the district and the Madhuban forest in the centre of the south of the district." But Dr. Crawford also associates the enhancement to improving registration and to deaths from doubtful causes or from some acute diseases attended with fever being put down to fever.

82. **CHITTAGONG DIVISION.**—In this Division the casualties from fever amounted to 44,911, or in the proportion of 12·93 per 1,000 of its population, estimated at 3,472,451, against 47,231 deaths, or at 13·60 per 1,000 in the preceding year, and 41,311 deaths, or at 11·89 per 1,000 in the preceding lustrum; and the number of villages which were affected amounted to 7,136, against 6,935 in 1885. These figures indicate an increase in the extension of the disease and a fall in the death-rate as compared with 1885, but an enhancement of mortality as compared with the lustrum. Of this division the Noakhalli portion exhibited a death-rate of 16·79 per 1,000, the Tipperah portion 12·15 per 1,000, and the Chittagong portion 11·18. Compared with the outcome of the preceding year, larger areas were invaded by the disease and higher mortality occurred in Noakhalli; extension of

		Difference in percentage of villages attacked.	Ratio of deaths per mille.
Noakhalli	...	2·99 I	·37 I
Tipperah	...	2·67 I	·08 D
Chittagong	...	4·22 D	2·21 D

* the disease associated with a decline in mortality took place in Tipperah; and a decline both in prevalence and fatality is observable in Chittagong. The marginal figures show the extent of the differences. Such facts connected with the fever history of these districts as have been furnished are subjoined.

83. The ordinary fever of **Chittagong** was no where epidemic, and presented a lower death-rate than during several years of the past decade; but *dengue* is reported to have prevailed very extensively in the autumn among the shipping in the Port. It was first seen in a ship which arrived with sand ballast from Colombo. It then spread to several other vessels. In the town only the Civil Surgeon and two other Europeans who had contact with the shipping were attacked; and in no case did the disease prove fatal. A full account of this malady will be found in Section X of this Report under the head of "Researches relating to special diseases." There was more fever in **Noakhalli** than in any year of the preceding decade during which the casualty rates ranged from 7·46 per 1,000 of population (the lowest) in 1876, to 16·42 per 1,000 (the highest) in 1885. The disease appears to have prevailed most in the Chagulnia, Bamni and Hattia thanas, where the mortality stood at 20·42, 20·20, and 19·58 per 1,000 of population respectively. **Tipperah.**—This district also returned a higher death-rate in 1886 than during any year of the preceding decade, during which the mortality ranged between 5·31 per 1,000 of population in 1876 and 12·23 per 1,000 in 1885.

BEHAR.

84. In Behar fever caused the death of 370,740 persons out of a population numbering 23,127,104, or in the proportion of 16.03 per 1,000, and the disease was distributed in 42,652 of the villages. In 1885 the area attacked was represented by 43,586 villages, and the casualties amounted to 377,718, or at 16.33 per 1,000 of population; and during the lustrum 1881-85, 297,165 persons died, or in the proportion of 12.84 per 1,000. This comparison indicates that the disease was confined within somewhat narrower limits than in 1885; and that while the mortality was a little lower than in that year, it was considerably higher than during the preceding lustrum. In seasonal severity the disease differs somewhat from that of Lower Bengal. In both the time of greatest mortality is the

	Deaths in 1886.	Rain-fall in 1886.	Average deaths dur- ing decade 1876-85.	Normal rain-fall of several years.
January ...	24,672	15	16,799	53
February ...	19,177	18	14,620	55
March ...	20,372	62	16,821	39
April ...	23,189	16	18,592	61
May ...	21,851	3.50	18,183	2.47
June ...	24,184	7.26	18,240	7.84
July ...	25,357	17.06	19,201	12.09
August ...	34,953	14.72	22,705	11.33
September ...	38,539	15.34	22,843	8.58
October ...	44,110	6.01	25,821	3.22
November ...	52,370	15	27,803	15
December ...	41,936	23	24,177	16

fourth quarter of the year; but in Behar mortality is greater during the rains and less in the hot dry months, while in Bengal the rainy season is the one of smallest mortality. The marginal figures, extending over a period of 11 years, illustrate these observations. In Behar generally the rain-fall is not so great as in Bengal; the temperature is higher; the natural drainage is better; the soil less tenacious of moisture; and the cold weather sets in earlier and is associated with a drier atmosphere. These conditions may have some influence in creating the differences.

85. **BHAGULPORE DIVISION.**—In the Bhagulpore, or eastern division of Behar, there occurred from fever 151,321 deaths in 17,237 villages among its population estimated at 8,063,160, or in the proportion 18.76 per 1,000. The figures of the anterior periods were—in 1885, number of villages attacked 19,747; deaths 165,039; death-rate 20.46 per 1,000 of population—and in lustrum 1881-85, deaths 120,086; death-rate 14.89 per 1,000. It appears, therefore, that while in comparison with 1885 the disease was confined within narrower limits to the extent of 2,510 villages, accompanied by a reduction of mortality represented by 1.70 per 1,000 of population, it was in contrast with the lustrum 1881-85 considerably more fatal, the excess mortality being 3.87 per 1,000. Individually considered, the five districts composing this division furnished the death-

	Ratio per mille.
Monghyr ...	24.07
Bhagulpore ...	21.08
Purneah ...	18.61
Maldah ...	14.36
Sonthal Pergunnahs ...	11.37

rates exhibited in the margin in the order of severity. Compared with the preceding year, the returns show that the disease was more widespread in Bhagulpore and Monghyr, and less so in Sonthal Pergunnahs, Maldah and Purneah, but that the mortality was lower in all, prominently in Maldah, where it was less by 3.59 per 1,000 of population. The only points claiming attention with regard to fever in these districts are the following.

86. **Monghyr and Purneah.**—These districts, the first of which returned the highest death-rate compared with the other districts in the division, furnished no particulars with regard to the incidence of the disease in them, but the returns show that there was more fever in them in 1886 than during any year of the preceding decade, 1885 excepted in Monghyr, and 1878 and 1885 in Purneah, and that inordinate suffering was experienced in thana Tegra and Shaikpura town in Monghyr, where the death-rates amounted to 29.87 and 28.68 per 1,000 of population respectively. In **Bhagulpore** the prevalence of fever in the tracts bordering on the Kosi river in the Suopol and Mudehpur sub-divisions was, it is reported, caused, as usual, by the inundation which took place in September, thana Kissengunge in the latter sub-division being said to be moreover low and damp, and to remain unhealthy during a great part of the year. In **Maldah** there was less fever than during any year of the preceding decade, excepting 1879. This reduction is said to be due to the salubrity of the climate throughout the year, and, contrary

to the opinion entertained in Bhagulpore, to the influence of the heavy inundations of September and October over the most part of the district, which washed away the surface impurities. The Magistrate, from his long experience in this and other districts, strongly supports this opinion of the Civil Surgeon. One marked feature of the good done by the inundation was that the Gazol thana and the adjoining Barind, which are notoriously unhealthy on account chiefly of the want of a good water-supply, were this year much freer from fever. It should be observed that in seasonal severity the disease partakes in Maldah more of the characteristics attaching to it in Lower Bengal than in Behar, inasmuch as it exhibits lowest prevalence during the rains, higher severity during the hot weather, and culminating virulence during the cold weather.

Sonthal Pergunnahs.—The Civil Surgeon of this district is of opinion that although the fever prevailed with much severity during the rains, and with greater intensity during the cold season, the large rainfall and cooler climate of the year was generally beneficial to health, inasmuch as there was a great reduction in mortality from the disease as compared with the preceding year when the rainfall was less. The statistics, however, of this district are quite unreliable.

87. PATNA DIVISION.—The deaths from fever in this division of Behar numbered 219,419, and occurred in 25,415 villages, and among a population estimated at 15,063,944, being in the proportion of 14·56 per thousand. In 1885, 23,839 villages were affected, and 212,679 persons, or at 14·11 per thousand, died, and the lustrum 1881-85 exhibited a death-rate of 11·75 per thousand. These figures indicate much increase both in the extent of prevalence and fatality of the disease. The statistics in the margin show the health status in each of the seven districts comprising this division so far as fever is concerned. They denote chiefly that the mortality was not only markedly great in Shahabad, but was also conspicuously higher than in 1885, and that noticeably larger areas of the country were overrun by the disease in Chumparun, Mozufferpore, Sarun and Patna in the order named. The interesting points connected with the prevalence of the disease in these districts are referred to below.

	Ratio of deaths per mille in 1880.	Difference in mortality as compared with 1885.	Difference in percentage of villages affected as compared with 1885.
Shahabad ...	29·20	9·48 I	·77 D
Gya ...	19·07	1·64 D	·32 D
Patna ...	15·01	1·46 D	6·98 I
Chumparun ...	14·93	2·25 I	11·40 I
Durbhanga ...	10·16	2·04 D	·81 D
Mozufferpore ...	9·12	1·82 D	9·20 I
Sarun ...	8·36	·15 I	7·45 I

concerned. They denote chiefly that the mortality was not only markedly great in Shahabad, but was also conspicuously higher than in 1885, and that noticeably larger areas of the country were overrun by the disease in Chumparun, Mozufferpore, Sarun and Patna in the order named. The interesting points connected with the prevalence of the disease in these districts are referred to below.

88. Patna.—In this district the severity of the disease commenced from August, and the bulk of the mortality occurred in the fourth quarter. This is ascribed to the rain-fall having been much above the average (60·30 against 42·05 inches), and to its having continued into October, when 6·22 inches fell against 3·11, the normal average; but it is to be observed that the death-rate was larger in two out of the preceding four years, when the rain-fall was much less. The inundations were unusually heavy and lasted later than usual, and the Sub-divisional Officer of Behar says that fever raged epidemically after falls of rain and after its subsidence “when noxious exhalations arise from the polluted soil and the decomposing filth scattered all around the villages.” In **Gya** there was more fever than during all the years of the past decade, excepting 1884 and 1885; but it was noticed that while the mortality was lower than during these two years, the rain-fall was much greater. The Magistrate reports that fever prevailed very severely in the Tikari and Bela villages in Tikari and in the Korathu village in Jehanabad, due, according to him, to the soil of these localities having become damp from having been under water for weeks together owing to heavy rain-fall, and to the drinking water having become polluted by rotting vegetation. It should be mentioned that 90 deaths from fever occurred in the Lodging-houses in this district.

	Ratio per. mille.		Ratio per. mille.
In 1886 ...	29·20	In 1881 ..	14·41
„ 1885 ...	19·72	„ 1880 ...	6·26
„ 1884 ...	12·83	„ 1879 ...	12·93
„ 1883 ...	12·66	„ 1878 ...	10·87
„ 1882 ...	12·32	„ 1877 ...	8·43
		„ 1876 ...	9·99

district the mortality from fever was very considerably higher than during all the years of the past decade, *vide* marginal figures. In fact, it was the worst district in the whole Province in this respect. The severity of the disease was pre-eminently great from August to December, during

which 40,010 deaths out of 57,379, the total casualties of the year, occurred, November alone recording one-fourth, or 10,157 deaths. Every circle in the district returned higher death-rates than in 1885, excepting the town where the recorded death-rate was only 2·64 per 1,000 of population, (the result, evidently, of sadly neglected registration), preponderating mortality being exhibited by the Kharger, (42·56 per 1,000), Buxar (40·89), Dumraon (38·73), Mohania (37·56), Dhangain (35·43), Dehri (33·34), and Sasseram (30·39) thanas. Dr. Price, the Civil Surgeon, ascribes the fever to excessive rain-fall (56·11 inches against 40·98, the normal average), and he is also of opinion that the numerous canals throughout the district are to some extent responsible for the much greater prevalence of the disease during recent years in comparison with its incidence in former years. The canals, he says, must necessarily raise the subsoil water-level, and, in a year of unprecedentedly heavy rain-fall, must have brought the water to the surface, this fact being evidenced by the water in the Arrah Jail being only a couple of feet below the ground surface—a state of things unknown before. The observations of Mr. Cameron, the Joint-Magistrate of the Sasseram sub-division, go to show that fever was widely prevalent and virulent in his sub-division, excepting in the Sone Valley up to Akbarpur and beyond, and continued longest in the Dhangain and Khargar thanas, where irrigation canals and distributaries are most abundant. He joins issue with the Civil Surgeon in attributing this outbreak primarily to excessive rain-fall, and secondarily to the excessive accumulation of water in the low-lying tracts, brought about by the obstruction of drainage caused by the banks of canals and distributaries. He adds that the Abra embankment, constructed by the people themselves for the accumulation of the surface drainage of the country for irrigation purposes, must be largely responsible for the prevalence of fever in their midst. The Magistrate also believes that the same causes operated in rendering the health of the people exceptionally bad, notwithstanding that the food-supply was good. Inundations from the overflow of the Kao and Dargaoty nuddis, covering 160 and 200 square miles, also occurred in October, but the Civil Surgeon is not aware that they affected the health of the people to any extent. The observations of Assistant Surgeon Mathuranath Sen, Deputy Sanitary Commissioner, Behar Circle, during his tour go to show that malarious fever of the intermittent type, with the usual complications and sequelæ, seldom lasting long, but associated with frequent relapses, prevailed throughout the district during the last four months of the year, that it attacked people living both in the elevated and low tracts, hardly any village escaping its visitation; but that the areas which experienced pre-eminent suffering were thanas Dhangain and Kharger, the northern portion of thana Sasseram, the eastern portion of thana Mohania, the northern portion of thanas Buxar, Dumraon, Belowti and Arrah, and the western portion of thana Beroo. He is of the same opinion as the local officers that the fever was due to heavy rain-fall. The only noticeable fact connected with fever prevalence in **Mozufferpore** is that an inundation extending over about one-third of the district was not followed by increased unhealthiness; but the registration is so bad that no reliable deductions can be made from the figures. In **Durbhanga** the registration is also evidently defective, and the returns taken in connection with the Civil Surgeon's remark that the deaths reported from fever are probably half deaths from other conditions, plus a febrile condition, are consequently untrustworthy. It appears, however, that the disease prevailed most in the Madhubuni sub-division. This sub-division is, according to the Sub-divisional Officer, in a very insanitary condition. "The people are extremely filthy in their habits; the house refuse and garbage are thrown around the houses; and the water-supply is bad in the extreme, the wells being never looked after and the tanks being simply cesspools." These defects were, however, to some extent remedied. In accounting for the fever which exhibited virulence on the advent of the rains and during the autumnal and winter months, Dr. Gilligan observes that "during the rains the alternating temperature is very trying, and the damp cold from a water-logged soil during the cold weather months is very injurious to weakly, under-clothed and half-fed subjects. Durbhanga is different to the run of Behar districts, inasmuch as we do not enjoy the dry heat and crisp cold, most of them do. The climate

is much more like that of Bengal.” **Sarun**.—This is another district where the registration is radically bad; but the figures, as they are, showed that the mortality from fever was higher than in 1885, and this is attributed to the rain-fall having been unusually heavy and protracted. There was more fever in the **Chumparun** district than in any year of the preceding decade, during which the death-rates ranged from 4·28 in 1876 to 12·68 per 1,000 in 1885, the rate of 1886 being 14·93 per 1,000. It is mentioned that the experience of years has shown that fever prevails most in this district during the second half of the year, November being the worst month. According to the Magistrate, the disease prevailed, as usual, with great severity in the notoriously unhealthy Terai tracts in Hurdi thana. He also notes that during the last quarter of the year a virulent and extremely fatal form of the malady was present throughout the Bettiah thana, as well as in other parts of the Bettiah su-division, which decimated some of the villages it attacked. The fever of this year is reported to have been on the whole of a very severe and quickly fatal type, death resulting in three or four days. The complaint was general among the people of the Indigo factories in the north and east of the district, so much so that nearly the whole of the employes were struck down by it. The rains commenced earlier and lasted later; there were more rainy days than last year, although the total fall was not greater; the inundations were noticeably higher and much more prolonged than usual; and there was two feet more water in the lakes bhils, and wells at the end of 1886. These circumstances led to the district being unusually damp, and to this dampness the Civil Surgeon ascribes the increase of the fever.

ORISSA.

89. Orissa returned 29,126 deaths from fever, or at the rate of 8·02 per 1,000 of its estimated population, numbering 3,628,832, the events occurring in 9,464 villages. Mortality from, and seasonal incidence of Fever in the Orissa Division of the Province.

Compared with the outcome of 1885 and of the lustrum 1881-85, an increase is observable in both the extension and fatality of the disease, the former being represented by an excess number of villages invaded of 495, and the latter by an enhancement in the death-rate of 1·30 per 1,000 of population as compared with 1885, and of ·92 per 1,000 in contrast with the lustrum above indicated. This division of the Province appears to have suffered the least, but its returns seem to me to be very defective. The three districts composing this division returned the following death-rates:—Balasore 10·78, Cuttack 8·70, and Puri 3·70 per 1,000 of population. Taking this record as it is, there seems to have been an increase of mortality in all the districts as compared with 1885, Balasore showing an excess death-rate of 3·51, Puri of 1·46, and Cuttack of ·06 per 1,000. The seasonal severity of the disease is somewhat disturbed or varied in Orissa by the accession of a great number of pilgrims who add largely to the local mortality at certain times; but, on the whole, it corresponded this year with that which obtains in Bengal, showing

	Deaths in 1886.	Rain-fall in 1886.		Deaths in 1886.	Rain-fall in 1886.
January ...	8,687	·86	July ...	1,581	11·20
February ...	2,694	·05	August ...	1,905	9·36
March ...	2,251	8·57	September ...	1,994	15·24
April ...	1,986	·06	October ...	2,284	7·48
May ...	1,665	4·50	November ...	3,309	1·89
June ...	1,458	11·76	December ...	4,267	1·20

that the rainy season is the most healthy and the cold season the reverse —*vide* marginal figures. Such particulars regarding the prevalence of fever in the Orissa districts as

have been submitted are subjoined.

90. **ORISSA DISTRICTS**.—In **Cuttack** the disease was most prevalent in the coast tracts where the villages lie near low and marshy land. The Civil Surgeon of **Puri** notes that during several past years it has been observed that fever assumes a virulent type throughout the district with the advent of the cold weather; and the Magistrate reports that, as usual, the disease prevailed in the localities about the Chilka Lake in thanas Banpur and Puri, and that this year it was of bad type and was present throughout the year; and with reference to this fact he notes that “the Chilka Lake is year by year slowly but surely silting up, and as far as can be seen at present, fever must and will continue to be bred among the

dreary swamps of that region." But Banpur registers very little fever mortality (7·43 per 1,000 of population), and a much greater death-rate from "all other causes" (22·51 per 1,000) than is usual. There is, however, evidently considerable sickness in Banpur, as about 6,000 out-door patients were treated at the local Dispensary. There was considerably more fever in **Balasore** than during any year of the past decade, excepting 1878, the death-rates ranging between 6·01 per 1,000 of population in 1876 and 8·41 per 1,000 in 1885, 1878 showing 11·36 per 1,000 against 10·78 during the year under review.

CHOTA NAGPORE.

91. In this Division Fever carried off 55,712, or at 12·85 per 1,000 of the population numbering 4,334,178, and the casualties took place in 14,413 of its villages, against 51,044 deaths, or at 11·77 per 1,000 in 12,794 villages in the preceding year and 52,966 deaths, or at 12·22 per 1,000 during the quinquennium 1881-85. There was therefore some increase in both the prevalence and fatality of the disease as compared with its incidence during the periods with which comparison is instituted. The four districts composing this division are named in the margin with the death-rates returned by them in the order of severity. In all these districts, excepting Singbhum, larger areas were invaded by the

	Ratio per mille.
Hazaribagh	16 35
Lohardugga	12 34
Manbhum	11 34
Singbhum	10 25

disease than in the preceding year, particularly in Lohardugga, where the additional villages affected numbered 1,608. In Singbhum 1,750 villages were attacked against 2,016, indicating that the reduction in the area pervaded was large. All these districts without exception also exhibited higher mortality, the increase in Manbhum being the greatest, viz. 2·22 per 1,000 of population. The marginal figures illustrate the

	Deaths in 1886.	Rain-fall in 1886.	Deaths in decade 1876-85.	Normal average rain-fall.
January	3,874	·19	2,964	·61
February	3,340	·02	2,874	·82
March	4,021	1·65	3,386	1·02
April	4,808	·13	3,770	·55
May	4,644	3·40	3,652	2·42
June	4,058	6·08	3,479	8·14
July	42,52	11·35	3,766	12·99
August	5,747	9·38	4,478	12·85
September	5,628	10·75	4,624	8·54
October	4,935	7·33	4,204	3·21
November	5,353	·45	3,895	·26
December	5,052	...	3,566	·33

seasonal severity of fever in Chota Nagpore. They show that the incidence of the disease does not exactly follow that of other divisions of the Province, inasmuch as heavy rainfall being associated with high mortality, which continues high till the end of December, and there is a marked fall in January and February, followed by an increase in the latter months. The salient points connected with the prevalence of fever in the districts in Chota Nagpore are subjoined.

92. **CHOTA NAGPORE DISTRICTS.**—In **Hazaribagh** the country around the base of the Parasnath Hill was found to be specially malarious. In **Singbhum** the localities most noted for fever are the west of the district, including Saranda in thana Chukradharpur and Turruffs Bhelaipahari and Atkosi in thana Ghatsilla. In **Manbhum**, where fever prevailed to a much greater extent than during some years past, its severity is said to have been felt most on the pilgrim routes in thanas Topchanchi, Govindpur and Nirsha. Next to Toondi, which is not on the pilgrim road and where the mortality amounted to 22·96 per 1,000 of population, the highest death-rates 15·47 and 14·09 per 1,000 respectively were exhibited by Topchanchi and Govindpur; but Nirsha, which lies intermediate between the two first-named thanas, and through which the Grand Trunk Road runs, returned the lowest casualty rate (8·15 per 1,000) compared with *all* the thanas in the district.

93. The marginal figures indicate the extent of prevalence and fatality of fevers among the *European seamen* in the **Port of Calcutta** during the year under review. Contrasted with the similar data for the preceding year, it is seen that, eliminating simple fever which will be referred to separately, the suffering among this class of seamen from enteric and malarious fevers was greater, inasmuch

Incidence of Fever in the Port of Calcutta.

	Admissions into hospital.	Deaths.	Ratio per mille.
Fever, enteric	12	4	1·72
„ malarious	321	3	1·29
„ simple	155	...	...

as eight more of them were admitted into hospital for the former malady and 127 for the latter, and the mortality caused by these diseases was higher by 1·13 and ·11 per 1,000 of average strength respectively. As regards simple fever, however, a considerably lesser number—189—were admitted into hospital, and, as in the preceding year, no death occurred from it. Among the *Native Floating Population* only one death from malarious fever, or at the rate of ·03 per 1,000 of population against ·47 per 1,000 in 1885, was reported to have occurred, and 15 deaths, or at ·59 per 1,000, against none, from simple fever. The returns are, however, manifestly defective.

BOWEL-COMPLAINTS.

94. The marginal figures show to what extent Bowel-complaints prevailed

Extent of prevalence and fatality of Bowel-complaints.

	Number of deaths.	Percentage of villages affected.		Number of deaths.	Percentage of villages affected.
In 1886 ..	55,693	9·70	In 1881 ...	57,029	11·60
„ 1885 ...	63,808	10·69	„ 1880 ...	44,969	10·14
„ 1884 ...	58,376	10·61	„ 1879 ...	52,237	10·23
„ 1883 ...	55,270	9·32	„ 1878 ...	65,282	13·44
„ 1882 ...	61,362	11·71	„ 1877 ...	58,962	12·18
			„ 1876 ...	53,701	No data

and the numbers who succumbed to them during the year under review and during the years of the preceding decade. If these statistics can be relied upon, the inference from the comparison is that the maladies in question prevailed to a less extent within

the Province than during any year of the decade referred to, 1883 excepted, and with a less mortality, the years 1879, 1880 and 1883 being excepted.

95. The urban circles returned 9,106 deaths, or in the proportion of 3·77 per 1,000 of population, and the rural circles 46,587 deaths, or at ·73 per 1,000, in opposition to 9,382 deaths, or at 4·12 per 1,000 in the former circles, and 54,426 deaths, or at ·85 per 1,000 in the latter, during the preceding year, indicating a sensible diminution of mortality in both circles.

Comparative prevalence of Bowel-complaints in the Urban and Rural Circles.

Seasonal incidence of Bowel-complaints.

	Number of deaths.		Number of deaths.
January ...	5,126	July ...	3,891
February ...	3,862	August ...	4,800
March ...	3,988	September ...	4,620
April ...	4,421	October ...	4,954
May ...	4,286	November ...	5,708
June ...	3,778	December ...	6,259

figures that the greatest suffering from the maladies in question is endured during the winter months, no doubt brought about by the masses being unable to contend against the vicissitudes and inclemencies of this season, being

poor, and badly housed, clothed and fed.

97. The areas (Districts, Towns and Rural

circles), which bore the largest burden of the mortality from Bowel-complaints, were the following :—

Areas of greatest suffering from Bowel-complaints.

DISTRICTS.	Ratio per mille.	TOWNS.	Ratio per mille.	RURAL CIRCLES.	Ratio per mille.
Balasore ...	4·68	Puri ...	9·76	Darjiling ...	8·52
Darjiling ...	4·65	Serampore ...	8·18	Basta in Balasore ...	8·10
Howrah ...	3·40	Jungipur in Murshidabad ...	7·85	Dinapur in Patna ...	6·88
Serampore ...	2·81	Balasore ...	7·15	Balasore ...	5·81
Puri ...	2·65	Hughli ...	6·76		
Patna ...	2·68	Suburbs of Calcutta ...	6·68		
Hughli ...	2·04	Barrh in Patna ...	6·39		
		Darjiling ...	6·01		
		Sewan in Sarun ...	5·93		
		Hajipur in Mozufferpore ...	5·87		
		Patna ...	5·62		
		Gya ...	5·50		
		Narainganj in Dacca ...	5·17		
		Jamalpur in Monghyr ...	5·16		
		Jamalpur in Mymensing ...	5·15		
		Utterpara in Serampore ...	5·08		
		Raniganj in Bardwan ...	5·02		

98. The Civil Surgeon of *Darjiling* reports that what is known as hill diarrhoea, was prevalent in the Darjiling station during May, June and July; and with reference to this fact, he observes that it is remarkable that it is only,

Hill Diarrhoea in Darjiling town.

during recent years that this disease has appeared in the town. "In former years it was one of the advantages claimed for Darjiling as a sanitarium that it was free from this plague of other hill stations." Now diarrhoea occurs with seasonal regularity during the early months of the rainy season, when not a household escapes it, and, although rarely fatal, it causes much suffering and discomfort, and, if neglected, seriously undermines the constitution. The cause of the disease establishing itself in the town is not yet known; but I think that increase of population and complete clearance of the forest, with their attendant evils, may have some connection with this change.

99. The Civil Surgeon of Puri notes that he ascertained, by personal investigation, that the pilgrims suffer most from bowel-complaints, and that this is due to the unfavourable circumstances under which they live and the indigestible food they have to consume while in this district. The Europeans are also seen to succumb to the disease in a short time, notwithstanding that they live as a rule away from the native town in houses on the beach, open to the sea breeze. The cause of dysentery in general is being enquired into; and the Civil Surgeon suggests that the head-quarters of the district be removed either to Pipli or Khurda.

100. A noticeable point with regard to bowel-complaints in the Midnapore district is that there was a reduction in the mortality from these diseases, while there was an increase under the head of cholera. This was almost general throughout the district, and has also been observed in other localities.

Port of Calcutta.
Prevalence of Dysentery and Diarrhoea.

		Admissions into hospital.		Deaths.		Ratio per mille.	
		1886.	1885.	1886.	1885.	1886.	1885.
<i>Among European seamen—</i>							
Dysentery	...	106	116	3	6	1.29	3.54
Diarrhoea	...	185	192	...	...	...	...
<i>Among the Native Floating population—</i>							
Dysentery	...	2	4	2	4	.07	.15
Diarrhoea	...	9	0	2	0	.07	...

101. The marginal table furnishing this information indicates with regard to the *European seamen* that dysentery was less prevalent, as well as less fatal among them than during 1885, and that while the number treated for diarrhoea was larger, it was not, as in the preceding year, attended with any casualties. The figures relating to the *Native Floating Population* being manifestly defective, call for no notice.

INJURY.

102. The reported casualties from injury amounted during the year under review to 29,081, or in the proportion per mille of population of .43, against 26,263 deaths, or at .39 per 1,000, the mean of the decade 1876-85. That the mortality from this cause should exceed the average of the decade, notwithstanding the fact that large numbers of deaths from drowning and other accidents were added to the figures of the latter period, the result of the cyclones and storm-wave which occurred, once in 1876 in Backergunge, Noakhalli and Chittagong, and again in 1885 in Orissa, I attribute to improving registration.

103. The figures affording this information are given in the margin.

Mortality from different classes of Injury.

	Suicide.				Wounds.		Accidents.		Snake-bite and killed by wild beasts.	
	Deaths.			Ratio per cent. to total deaths from injury.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
	Males.	Females.	Total.							
In 1886	946	1,740	2,686	9.23	1,557	5.28	13,073	44.05	11,785	40.52
.. 1876-85	923	1,518	2,441	9.20	1,422	5.41	12,392	43.05	10,008	38.33

Compared with the outcome of the preceding decade, there was an enhancement of casualties under all the heads, particularly in deaths caused by snake-bites and wild beasts. These statistics also show that the rule which prevailed during the decade also

obtained during the year under review, viz., that accidents caused the greatest

loss of life; that the cause of death next in operation was snake-bite and maltreatment by wild beasts; that suicide took the third rank in the death-roll; that the least number of deaths was due to wounds; and that the suicides of women exceeded those of men. The causes have been explained in former reports.

104. It is again observed that the rainy months of June to September, when from the flooding of the country snakes and wild beasts seek refuge near the habitations of men, produce the largest number of casualties from violence, for during these four months the recorded deaths amounted to 15,870, against 13,211 during the remaining eight months.

105. In the **Port of Calcutta** 15 *European seamen* met their death from drowning and 5 from accidental causes not specified. This number yields a death-rate of 6.45 per 1,000 of average strength, against 5.31 per 1,000 during the preceding year. The Health Officer's report does not furnish the casualties from violence among the *Native Floating Population*.

OTHER CAUSES.

106. The mortality from causes not specified, but generally grouped under the head of "Other Causes," amounted during the year under review to 190,818, or at the rate of 2.88 per 1,000 of population, against 186,209 deaths, or at 2.81 per 1,000 during the preceding year, indicating an almost equal mortality during both years.

107. The areas in which the greatest loss of life occurred from the above referred to category of maladies are named below:—

DISTRICTS.	Ratio per mille.	TOWNS.	Ratio per mille.	RURAL CIRCLES.	Ratio per mille.
Puri	... 12.04	Gya	... 16.78	Banpur in Puri	... 25.51
Sarun	... 8.83	Puri	... 14.96	Khurda in do.	... 13.54
Backerganj	... 7.27	Serampore	... 14.60	Chupra in Sarun	... 11.65
Balasore	... 5.26	Sewan in Sarun	... 14.27	Mathbaria in Backerganj	... 11.64
		Bhagulpore	... 13.40	Gope in Puri	... 11.27
		Suburbs of Calcutta	... 11.74	Puri	... 10.82
		Narainganj in Dacca	... 10.34	Darwali in Sarun	... 10.64
		Kendrapara in Cuttack	... 10.19	Baragaon in do.	... 10.59
		Jamulpur in Monghyr	... 10.10	Bhandaria in Backerganj	... 9.89
		Dacca	... 9.69	Gopalganj in Sarun	... 9.78
		Midnapore	... 9.17	Perozpore in Backerganj	... 9.75
		Cuttack	... 9.13	Jhalokati in ditto	... 9.42
				Manjhi in Sarun	... 9.33
				Govindganj in Chumparun	... 9.19
				Bowphal in Backerganj	... 9.16

Opthalmia in Hazaribagh.

108. The report from Hazaribagh shows that opthalmia was unusually prevalent in the Hazaribagh and Chattra towns.

109. In the **Port of Calcutta** nine *European seamen*, including five who were affected out of hospital, were attacked by heat apoplexy or sunstroke; and of this number 6 died, yielding a death-rate of 2.58 per 1,000 of average strength in Port, in opposition to five attacks and four deaths, or at the rate of 2.36 per 1,000, during the preceding year, indicating that, although the number who suffered from the malady was larger, the mortality was lower calculated on the populations of the two years in question, which varied according to the total number present in the Port.

110. There were seven admissions into hospital from scurvy, against 13 in the preceding year, with no deaths in both years. There was thus a satisfactory reduction in the prevalence of the disease. It was found on board of five vessels, two hailing from Liverpool, one from Mauritius, and two from New York. The frequency of the disease in vessels from New York has been alluded to in my Annual Report for 1884. This year enquiry showed that in one of the ships, the "*Albyn*," the food was ill-cooked, the biscuits bad, and the limejuice inferior. There

was a difference of opinion between the Health Officer and the Shipping Master as to the interpretation of the Merchants' Shipping Act with regard to the liabilities of masters of ships in the matter of the treatment of the crews with reference to food, &c., and it also appeared that the standard of measure by which limejuice should be issued required to be definitely fixed to obviate misapprehension of the quantity denoted by ounces. Both questions were submitted to Government for special orders.

111. For "other diseases" 1,875 seamen, against 1,179 in 1885, were admitted into hospital; the deaths numbered 40, including six which occurred out of hospital, against 22; and the death-rate stood at 17.19 per 1,000 of average strength against 12.99. There was thus a considerable increase both in the prevalence and fatality of these maladies. Of the six deaths out of hospital, one each was caused by diseases of the heart and brain, and these may have been suddenly fatal; but, with regard to the others who died from consumption, pneumonia, and other lung diseases, it is difficult to understand why the sufferers were allowed to die on board.

112. There were returned from among the *Native Floating Population* 23 deaths, or at the rate of .90 per 1,000, from the various maladies coming under the head of "other diseases," against 25 casualties, or at 98 per 1,000, during the preceding year.

SECTION VII.

GENERAL HISTORY OF VACCINATION.

Year of Report.

113. The particulars regarding Vaccination presented in this Section of my Report belong to the official year 1886-87.

114. The following Officers were in charge of the Vaccination Circles in the Province during the year under review. *Calcutta*—Surgeon-Major R. C. Sanders from 1st April to 14th May 1886, and Dr. W. J. Simpson during the rest of the year. *Metropolitan Circles*—Surgeon J. French-Mullen from 1st April to 7th July 1886; Assistant Surgeon Jadub Chander Ghose, Rai Bahadoor, from 8th July to 24th November 1886; and Surgeon-Major Kali Pada Gupta from 25th November 1886 to the end of the year. *Darjiling Circle*—Surgeon-Major J. J. Wood, throughout the year. *Ranchi Circle*—Surgeon L. A. Waddell from 1st April to 9th May and from 10th August to 17th September 1886; Surgeon-Major F. R. Swaine from 10th May to 9th August and from 18th September to 23rd October 1886; and Assistant-Surgeon Kassinath Ghose from 24th October 1886 to the end of the year. *Sonthal Pergunnahs Circle*—Assistant Surgeon Kassinath Ghose from 1st April to 26th June 1886, and Assistant Surgeon Kali Prosonno Ghosal from 27th June 1886 to the end of the year. *Eastern Bengal Circle*—Apothecary A. Lyons from 1st April to 25th July 1886, and Assistant Surgeon Narendro Nath Gupta from 26th July 1886 to the end of the year. *Behar Circle*—Assistant Surgeon Mothura Nath Sen throughout the year. *Orissa Circle*—Assistant Apothecary P. Veeriah Naidu throughout the year.

115. The marginal table exhibits the supervising and operating establishment which was actually employed in conducting vaccine operations during the year in the Circles and in Municipalities. In comparison with the working establishment of the preceding year there was an increase of twelve Inspectors in six circles against a decrease of one in one circle; a decrease of one Head Vaccinator in one circle; an increase of 11 Vaccinators in three circles against a decrease of 10 in two; an increase of 685 Licensed Vaccinators in seven circles

Strength of the working Establishment.

CIRCLES.	STRENGTH IN 1886-87.							
	Superintendents.	Deputy Superintendents.	Inspectors, Native Superintendents, Inspecting Vaccinators, &c.	Head Vaccinators.	Vaccinators.	Apprentices.		Licensed Vaccinators.
						Government.	Licensed.	
Calcutta	1	12	.....	3	19	...	124	367
Metropolitan Circles	1	4	39	...	...	...	...	...
Suburbs of Calcutta	...	1	2	...	12	...	...	...
Bovine Department, Suburbs	...	...	1	...	2	...	...	...
Total of Metropolitan Circles	1	5	42	...	14	...	124	367
Darjiling Circle	1	2	12	1	5	...	184	204
Ranchi	1	1	15	1	32	...	19	154
Sonthal Pergunnahs	1	...	11	3	42	...	86	141
Eastern Bengal	1	1	7	6	67	30	212	216
Orissa	1	...	2	3	24	4	...	25
Behar	1	...	6	4	43	5	13	63
Total of Vaccination Circles	8	11	95	21	250	39	642	1,169
Municipalities, Dispensaries, &c.	...	...	...	...	212	...	...	36
GRAND TOTAL	8	11	95	21	462	39	642	1,205

against a decrease of 15 in one; and a decrease of 12 Apprentices in two circles. The net increase of establishment is represented by eleven Inspectors, one Vaccinator and 670 Licensed Vaccinators; and the net decrease by one Head Vaccinator and 12 Apprentices. The causes of these changes were:—*Inspectors*.—Two Inspectors were sanctioned for and employed in the Eastern Bengal Circle owing to extension of the Licensed system of vaccination, but the Pubna Inspector was transferred to Darjiling and this accounts for the increase of one Inspector only. For the same reason two Inspectors were appointed in the Behar Circle. The additional Inspector in the Darjiling Circle is the

one who came over with the transfer of the Pubna district to this circle. Seven Vaccinators were made Inspecting Vaccinators in the Ranchi Circle. Three Inspectors were employed in the Sonthal Pergunnahs Circle on the extension of the Licensed vaccination system in it. One Inspector was appointed in the Bovine vaccination establishment in the Suburbs of Calcutta on the re-organization of its establishment. One Inspector was dispensed with in the Suburban Municipality owing to the amalgamation of the Ekbalpur with the Watgunge and the Cossipur with the Chitpore thanas. *Head Vaccinators.*—The Head Vaccinator of the Bovine vaccination establishment in the Suburbs of Calcutta was dismissed, and this accounts for the reduction under this head. *Vaccinators.*—Two additional Vaccinators appear to have been employed in the Orissa Circle, but it is not stated under what circumstances. Three Apprentices were made Vaccinators in the Ranchi Circle to fill up vacancies caused during the preceding year. The requirements of the year necessitated the appointment of six Vaccinators in the Municipal Area. The services of nine Vaccinators in the Eastern Bengal Circle were dispensed with and their places not filled up. The post of one Vaccinator was done away with on the re-organization of the Bovine vaccination establishment in the Suburbs of Calcutta. *Licensed Vaccinators.*—The requirements of the year necessitated the appointment of 110 additional Licensed Vaccinators in the Metropolitan Circles, 15 in the Ranchi Circle, and 16 in the Municipal Area. Extension of the Licensed system of vaccination involved an increase of 146 Licensed Vaccinators in the Sonthal Pergunnahs Circle, 178 in the Eastern Bengal Circle and 13 in the Orissa Circle. The increase of 207 Licensed Vaccinators in the Darjiling Circle is represented by the transfer of 28 of these men from Pubna, and the entertainment of 188 Apprentices, against a reduction of nine Licensed Vaccinators, who, although in the list of last year, did not practice this year. The services of 15 Licensed Vaccinators appear to have been dispensed with in the Behar Circle, but the reason has not been furnished. *Apprentices.*—The retention of four Apprentices in the Eastern Bengal and of eight in the Behar Circle was abolished.

The female vaccinator entertained in Calcutta in 1884 continued to work during this year. The services rendered by her will be referred to hereinafter.

116. A notice of those of the Vaccination Establishment who are favourably

Conduct of Establishment.

mentioned in the local reports and of those who were punished for grave misconduct, and a table showing the number of those who committed minor misdemeanours, and the punishment awarded them, are subjoined. The conduct of the rest was good.

Good conduct.—Assistant-Surgeon Ram Chandra Mitra, Deputy Superintendent of Vaccination, Calcutta, is reported to have carried on his duties in a most praiseworthy manner, and to be thoroughly deserving of some recognition for the good work he has done. Inspector Hari Charun Banerjee of the Sonthal Pergunnahs Circle is reported to have displayed marked energy in assisting the cause of vaccination, as it was through his exertion that 1,118 re-vaccinations were effected—a matter which must in the future engage special attention. Head Vaccinator Mohim Chandra Bhumiak and Vaccinators Imamuddin Bhuia, and Akhoy Kumar Dass of the Eastern Bengal Circle performed their duties well and energetically throughout the season under many hazardous circumstances, such as crossing rivers, khals, insecure bridges, &c. They have been promoted to higher grades respectively.

Gross misconduct.—*Suburbs of Calcutta.*—Head Vaccinator Gowri Prosad Sing was dismissed for bringing false charges against the Superintendent. *Darjiling Circle*—Inspector Sakatullah was fined Rs. 15 for taking a bribe from a Licensed Vaccinator. *Ranchi Circle*—Native Superintendent Mahabir Porsad was found guilty of insubordination, disobedience of orders and submitting false returns, and was degraded and debarred from promotion. Vaccinator Miter Bhan Sing overcharged fees and absconded, and Vaccinators Khursed Ally and Bhagwan Persad overcharged fees; the first of these vaccinators was dismissed and the two others fined. Native Superintendent Mahomed Ali and Head Vaccinator Luchman Sahay were found guilty of, and dismissed for, disobedience of orders and neglect of duty. *Sonthal Pergunnahs Circle.*—Inspectors Aughore Nath Sircar, Darikanath Mitra and Thakoordas Sircar were found to have accepted illegal gratifications. The two former were suspended, and the case of the last

is under consideration. Head Vaccinator Wooma Churan Gupta was fined for idleness and neglect of duty. Vaccinators Woomesh Chandra Chunder, Nootbehari Das, Baroda Chandra Dutt and Bhutnath Bose were also found guilty of taking illegal gratifications and punished, the first by suspension for six months, the second by degradation, and the two last by dismissal. *Eastern Bengal Circle.*—Inspector Tomizuddin was charged with taking an illegal gratification. He is under suspension pending enquiry into the case. *Behar Circle.*—Head Vaccinator Dabce Sing was degraded for working in an area other than that assigned to him, and for persisting to do so although fined. Among the Licensed Vaccinators inoculating instruments were found in the possession of Jhungir Mally; Baboo Ram Mally was found drunk and was insubordinate, and Palut, Fazdar, Boolakee, Luchnan, Churamun and Shio-baluk Mally were absent. The licenses of these men were withdrawn. Apprentices Topy Mally and Bunsil Lal were dismissed for being absent without leave. *Orissa Circle.*—Vaccinator Venke Sewamy was dismissed for misappropriating Rs. 5-10, the pay of a Vaccinator which was entrusted to him to deliver. He was also prosecuted and was sentenced to three months' rigorous imprisonment and fined the amount misappropriated. Vaccinators Mothoori Mohun Achargia and Brojo Behari Sen Gupta were dismissed for refusing to proceed to stamp out small-pox, and Vaccinator Anunda Mohapater was degraded for insubordination and bad work.

Minor misdemeanours.—The punishment awarded for this class of offences are exhibited in the subjoined table:—

Circles.	INSPECTORS.				NATIVE SUPER-INTENDENTS AND INSPECTING VACCINATORS.				HEAD VACCINATORS.				VACCINATORS.				LICENSED VACCINATORS.				APPRENTICES.			
	Warned.	Fined.	Degraded.	Dismissed.	Warned.	Fined.	Degraded.	Dismissed.	Warned.	Fined.	Degraded.	Dismissed.	Warned.	Fined.	Degraded.	Dismissed.	Warned.	Fined.	Degraded.	Dismissed.	Warned.	Fined.	Degraded.	Dismissed.
Calcutta	5	12	...	...	...	...	...	...	...	...	...	...
Metropolitan
Darjiling	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ranchi
Southal Pergunnahs
Eastern Bengal
Behar	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orissa
Total	2	14	...	...	...	9	1	...	...	8	2	...	9	78	6	21	12	15	8	19	...	2	...	14

117. The areas which were to be taken up for vaccination during the

Areas vaccinated, and plans which determined the conduct of Operations in the Vaccination Circles.

year under review in each Circle were determined upon before the commencement of the working season under sanction from this office. The main points kept in view in the plan of operations to be adopted, were that defined areas, contiguous to each other as far as possible, admitting of proper supervision, and calculated to secure the thorough protection of the areas traversed with due reference to the birth-rate of the year and to the accumulated births of former years, should be taken up; and that the staff to be employed on the work should be adequate, judiciously distributed, properly supervised and systematically worked. The exact areas in which operations were carried on during the year will be found exhibited in Appendix VII, Table A, to this Report. I will refer here to these areas only in a general manner, and indicate the staff which was employed for carrying on the work in each circle, and the results achieved by it. In *Calcutta* vaccination was carried on in the whole town consisting of 18 thanas; the staff employed consisted of 19 vaccinators, of whom one was a female, under the supervision of the Superintendent, the Deputy and Assistant Superintendents and three Head Vaccinators, and the total operations performed amounted to 10,563 against 12,365 in the preceding year. In the *Metropolitan* Circles operations were carried on in all the 11 districts comprising it, by 367 Licensed Vaccinators, aided by 124 Apprentices and supervised by the Superintendent, four Deputy Superintendents and 39 Inspectors. They performed 374,390 vaccinations, which exceeded the number of the preceding year by 1,043. The usual plan was followed, all the thanas in the Circle being taken up for

operations simultaneously, and each vaccinator working in half of his assigned area, leaving the other half to be gone through next year, so that his earnings may not be curtailed by paucity of subjects. The work was commenced in September, but, owing to the districts being more or less under water, very little vaccination was performed in that month. In the *Suburbs of Calcutta*, comprising 14 thanas and the Cooly Depôts, the operating staff consisted of 14 paid Vaccinators under a Deputy Superintendent and three Inspectors, and the vaccinations performed numbered 14,337 or 293 in advance of the number of 1885-86. In the *Darjiling Circle* thanas Darjiling, Kurseong and Kalimpong were assigned to the *Government* agency, and all the thanas in the Rungpur, Bogra, Rajshahye, Dinajpur, Purneah, Maldah, Jalpaiguri and Pubna districts, and the Darjiling Terai to the *Licensed* agency, where they performed 11,744 and 278,547 operations respectively, being in excess of the work of the preceding year by, on the whole, 37,729 operations. The *Government* establishment in the Darjiling hills consisted of five paid Vaccinators under the Superintendent and one Head Vaccinator, and the *Licensed* agency of 204 Vaccinators with 188 Apprentices under two Deputy Superintendents and 12 Inspecting Officers. *Ranchi Circle*.—To the *Government* agency, consisting of 32 paid Vaccinators, supervised by the Superintendent and two Native Superintendents and one Head Vaccinator, were allotted the Kolhan in Singbhum and nine thanas in Lohardugga, and the *Licensed* agency, composed of 154 Licensed Vaccinators, aided by 19 Apprentices and supervised by the Deputy Superintendent, five Inspectors, one Native Superintendent and seven Inspecting Vaccinators took up 15 thanas in Hazaribagh, 11 in Lohardugga, 15 in Manbhum, five in Singbhum and the Political Estates of Sirguja, Jushpur, Gangpur and Bonai. The *Government* agency performed 30,125 operations and the *Licensed* agency 139,260, showing a decrease on the side of the former of 36 vaccinations against an increase on the side of the latter of 42,995, culminating in a net increase of 42,959 vaccinations as compared with the outturn of the preceding year. The areas in the Kolhan in which vaccination was conducted this year had not been visited for the last three or four years, and it is reported that an unauthorized vaccinator, but known to the people, carried on operations in thana Ghatsilla in Singbhum, having been allowed to do so by the local police officer. The case was reported to the Deputy Commissioner of Singbhum and was under investigation. In the *Sonthal Pergunnahs Circle*, the *Government* agency were made to undertake the vaccination of 2 thanas in Bhagulpur and nine in Monghyr, their strength consisting of 42 paid Vaccinators under the Superintendent, two Inspectors, two Inspecting Vaccinators and three Head Vaccinators, and the *Licensed* agency that of five thanas in Monghyr, 12 in Bhagulpur and 14 in Sonthal Pergunnah district, with 141 Licensed Vaccinators aided by 86 Apprentices and supervised by the Superintendent and seven Inspectors. The *Government* agency performed 69,900 vaccinations and the *Licensed* agency 74,013, which compared with the work of the preceding year give an increase of operations for both agencies of 13,184 and 16,190 respectively. The plan of operations observed by the licensed agency was quite in opposition to the instructions on the subject issued from this office. It was desultory, scattered and partial. In the *Eastern Bengal Circle* the *Government* agency were charged with the vaccination of 10 thanas in Backergunge and (for the establishment of lymph only,) the Keranigunge thana and Dacca town and the *Licensed* agency with that of the entire districts of Mymensing, Dacca, Tipperah, Faridpur and Noakhalli and four thanas in Backergunge. In the former area 67 paid Vaccinators assisted by 30 Apprentices and supervised by the Superintendent, one Native Superintendent and six Head Vaccinators were employed, and in the latter 215 Licensed Vaccinators with 212 Apprentices under the Deputy Superintendent and six Inspectors. The vaccinations effected by the *Government* agency amounted to 188,662 being 114,155 in excess of those of the preceding year, and by the *Licensed* agency 198,619, the comparative result being a diminution of 12,906 operations; but the increase over-balanced the decrease by 101,249. Under orders of Government No. 2117T—M of the 7th October, the Pubna district was transferred from this to the Darjiling Circle. Vaccination was extended for the first time this year to the mainland of the Backergunge district, that is to thanas Gourandi, Mendigunge, Sarupkati, Jhalokati, Nulchiti, Barisal and Backergunge. In the *Behar Circle* 11 thanas in Shahabad,

and six thanas in Patna (during the recess,) were assigned to the *Government* agency, consisting of 43 *paid* Vaccinators and five Apprentices supervised by the Superintendent, two Native Superintendents and four Head Vaccinators and to the *Licensed* establishment, composed of 63 *Licensed* Vaccinators and 18 Apprentices supervised by the Superintendent and four Inspectors, the Patna district and six thanas in Shahabad. In the former area 33,696 persons were vaccinated and in the latter 32,043, both areas showing an excess of operations, viz., of 8,268 and 10,293 respectively. The *Licensed* system of vaccination was extended during the year to thanas Arrah, Peeru, Dhungain, Belowti, Buxar and Dumraon in Shahabad. In the *Orissa* Circle three thanas in the Cuttack district, two thanas in Puri, the Government Estate of Angool and the Political States of Baramba, Mohurbhanj and Nursingpur were assigned to the *Government* agency, composed of 28 paid Vaccinators aided by four Apprentices and supervised by the Superintendent and three Head Vaccinators. They performed 52,176 operations, which is less than those of the preceding year by 2,583. The *Licensed* agency took up six thanas in Cuttack. This agency consisting of 25 *Licensed* Vaccinators under the control of the Superintendent and two Inspectors performed 14,101 vaccinations which exceeds the number of the preceding year by 11,179. Setting the above decrease against the increase the net increased outturn of work is represented by 8,596 operations. Thanas Salipur, Kendrapara, Patamundi and Aul in Cuttack were for the first time taken up by the *Licensed* agency.

118. The *Municipal Area* in which vaccinations were carried on during the year embraces 43 *Sudder Municipalities*, 91 outlying *Towns*, 4 *Cantonments*, 19 *Dispensaries*, 7 *Jails* and five other places. Within this area 88,101 operations were performed against 84,822 in the preceding year, as per details furnished in the margin.

AREAS.	Number of Operators.	Number of Operations performed in	
		1886-87.	1885-86.
<i>Sudder Municipalities</i> ..	91	46,765	44,937
<i>Outlying Towns</i> ..	105	29,507	31,591
<i>Cantonments</i> ..	4	1,563	1,244
<i>Dispensaries</i> ..	23	3,560	4,028
<i>Jails</i> ...	7	283	260
<i>Other places</i> ...	18	6,423	2,762
Total ..	248	88,101	84,822

The jails referred to are those in the *Jessore*, *Jalpaiguri*, *Faridpur*, *Mymensing*, *Noakhali*, *Shahabad*, and *Chumparun* districts, and the other places consist of *Saidpur*, (*Northern Bengal State Railway* in *Rungpore*), the *Udulia* and *Chandpur Tea Estates* in *Chittagong*, and the *Dhenkanal* and *Bishapara Estates* in *Cuttack*. The *Darjiling* municipal vaccinator was also employed in the neighbouring tea gardens whenever the managers thereof needed his services. The vaccination in the *Tea gardens* in *Chittagong* was arranged for by the managers and carried out by a *Hospital Assistant*. In the *Dinajpur* town a good plan was followed in seeking for subjects for vaccination, which is worthy of imitation generally. House to house enquiry was made to ascertain the number of unprotected cases, and operations were carried out as unprotected cases were found. In pursuance of this plan 488 houses were visited, and out of 2,169 inmates only 90 of all ages were found unprotected. The children of the *zillah* and model schools were also inspected, and out of 400 boys only 10 or 12 were found not to have been vaccinated. This enquiry is still being carried on. An endeavour was made to introduce vaccination into *Cox's Bazar*, but the result was unsatisfactory, due to the facts that there were several changes of *Medical Officers* and that the natives of the sub-division being chiefly *Mughls*, are difficult to deal with.

119. *Calcutta*.—The Superintendent reports that the protection afforded to this town is as thorough as possible, but subject to the drawbacks reported last year. The extent to which the districts, thanas, &c., comprising the *Metropolitan Circles* have been protected is shown below. *Thoroughly protected*.—All the 11 districts composing this division, viz., *Jessore*, *Khulna*, *Nuddea*, 24 *Pergunnahs*, *Murshidabad*, *Birbhum*, *Hughli*, *Burdwan*, *Howrah*, *Bankura* and *Midnapur*, with the exception of the undermentioned areas, which are either partially or entirely unprotected. *Partially protected*.—In *Bankura*, 40 villages in thana *Onda*, 50 in *Bankura*, 62 in *Gungajulghati*, 52 in *Khatra* and 70 in *Raipur*. In *Midnapore*, 100 villages in thana *Contai*, 45 in *Egra*, 200 in *Sabong*, 40 in *Bhugwanpur*,

30 in Potaspur, 150 in Khedgiri and 350 in Raghunathpur. *Entirely unprotected.*—In *Jessore*, three villages in thana Lahagurrah, two in Mahomedpur and a few families of Ecchaghur and the Bhagwanis who leave everything to God. In *Khulna*, 4 villages in thana Morelgunge, 1 in Mollahat, one-eighth of the Ferazi Mahomedan population in thanas Morelgunge, Bagirhat, Mollahat, Rampal, Dumuria, Khtlra, Bytaghatta and Pikegatcha and a few Eccha families, and Bhagwanis in thanas Magura and Kaligunge. In *24-Pergunnahs*, five villages in thana Kulpi, half of two villages in Joynuggur, two villages in Tollygunge, one-fourth of one village in Bistopore inhabited by Ferazis, and 110 Mahomedan families in thanas Deygunga and Baraset. In *Nuddea*, one village in thana Kotwali, two in Kissengunge, three in Chupra, one in Meherpore, two in Tehatta and one in Gangni. In *Murshidabad*, three villages in thana Khurgram, one in Kalliangunge, two in Dewansera, four in Mirzapore, two in Raghunathgunge and three in Suti. In *Birbhum*, one village in thana Nulhati and three in Mouressur. In *Howrah*, one village in thana Dumjur inhabited by Eccha families and one in Juggutbullubpore inhabited by Ferazis. In *Hughli*, one village each in thanas Goghat and Singoor and two in Kristonuggur inhabited by Eccha families. In *Burdwan*, two villages in thana Bood-Bood, one in Gangoor and two in Ausgram inhabited by the same class, and half of one village in the first named thana where vaccination is refused. In *Bankura*, seven villages in Bishenpore thana, three in Kotulpore, one in Indas and two in Sonamukhi. In *Midnapore*, 11 villages in Tumluk, 12 in Nundigram, 24 in Sootahatta, nine in Midnapore, 50 in Narainghur, 25 in Dantoon, 100 in Sabong and 14 in Panchkura. The local testimony, out of the Vaccination Department, on the extent of protection afforded to some of the districts in this circle will be gathered from the following observations. Mr. Oldham, the Magistrate of *Burdwan*, reports that so far as he observed during his tour, he found the people of his district well protected by vaccination. Mr. Lee, the Officiating Magistrate of *Midnapore*, reports that vaccination appears to have made satisfactory progress in the district. The Magistrate of *Murshidabad* observes that vaccination has much improved this year as was ascertained by an examination of the pupils of many primary schools all over the district. The Civil Surgeon of *Khulna* reports that there are many villages in the Bagirhat sub-division and certain limited religious communities in the Satkhira sub-division yet unprotected. The *Suburbs of Calcutta* is said to have been well protected, except with regard to the non-permanent residents. The extent of protection afforded may be judged from the fact that while cholera, fever and other diseases were committing great havoc in the Municipality during the year there was no mortality from small-pox. *Darjiling Circle.*—With regard to protection afforded the Superintendent reports in connection with the Government agency areas, (*vide* paragraph 117), that all parts thereof are partially, and no part thoroughly protected owing to the rapidly changing character of the population; and with regard to the Licensed agency areas (*vide* paragraph 117) that they are more or less thoroughly protected, implying that none of them are thoroughly protected. But turning to local opinion it is seen (1) that Mr. Sharp, the Magistrate of *Maldah*, reports that vaccination has spread very successfully throughout his district, and that the only thing the people object to is the pressure put upon them by the Vaccination Department to attend with their children at distant and inconvenient places; (2) that it was noticed in the Purneah Jail that, contrary to the experience of past years, many younger prisoners had vaccination marks on their arms which evidences progress; and (3) that the Joint Magistrate of Kurseong observes that in his sub-division “vaccination is employed as a protective in a sporadic fashion all throughout, including the Terai.” While no part of the *Ranchi Circle* has been left untouched, the Superintendent is of opinion that the supposed thorough protection of some portions is far from real. The following areas have, however, advanced far in this direction and may be considered as very nearly thoroughly protected. In Hazaribagh thana *Kharakdiha*. In Lohardugga thanas *Khunti*, *Kera*, *Sesoi*, *Lokardugga*, *Chainpur*, *Mandar* and *Ranchi*. In Manbhum, thanas *Purulia*, *Manbazar*, *Ichagurh*, *Gourandi*, *Govindpur* and *Nirsha*. In Singbhum thanas *Seraikela*, *Khursona*, *Chakardharpur* and *Chaibassa*. In the Political Estates, *Surguja* and *Jashpur*. The rest of the areas in this circle have been partially vaccinated.

In the *Sonthal Pergunnahs* Circle the whole of the districts of Bhagulpur, Monghyr and Sonthal Pergunnahs are reported to have been thoroughly vaccinated with the exception of four villages in thana Shaikhpura in Monghyr, one each in thanas Madhepura and Sultangunge in Bhagulpur, and one each in thanas Jamtara and Dumka in the Sonthal Pergunnahs which have not yet been touched. From the enquiries of the District Superintendent of Police of Monghyr it, however, appears that a good deal more work is required in his district before satisfactory protection can be said to have been afforded. In the *Eastern Bengal* Circle the districts and thanas marginally

Districts.	Thanas.
Dacca ...	Bhola ...
Mymensing ...	Barhanudi ...
Tippurah ...	Sarupkati ...
Faridpur ...	Gournadi ...
Noakhali ...	Backergunge ...
	Mendhigunge ...
	Jhalokati ...
	Barisal ...
	Nulchitti ...

named are reported to have been thoroughly protected. To these may be added the Pubna district transferred to the Darjiling Circle. On the other hand the whole of Chittagong and thanas Perozopore, Golachipa, Gulshakhali and Matbaria and parts of thanas Bophal, Bhandaria and Patuakhali in Backergunge have not yet been touched. It was ascer-

tained that only 9.72 per cent. of the total admissions into the jail and 37 out of 606 pupils in the schools in *Faridpur* were found to have been unprotected. With regard to Chittagong the Civil Surgeon reports that the Municipality is in an unprotected condition, but I trust that the introduction of Act V (B.C.) of 1880 will remove this unfortunate state of matters. No part of the *Behar Circle* is considered to have yet been thoroughly protected, while the districts of Gya, Sarun, Mozufferpore and Durbhanga, part of Chumparun, and a few villages in Patna and Shahabad have not yet been vaccinated. The rest of the area in the circle has been partially vaccinated. The Superintendent states that it is not easy to protect this circle thoroughly as the opposition to vaccination is great. He advocates the introduction into the circle of a compulsory vaccination law which he considers the only effectual means of overcoming the difficulties. The report from the *Orissa Circle* is to the effect that thanas Jajpur, Dhurnsala, Salipur, Kendrapara, Patamundi, Aul, Cuttack, Juggatsingapore, Tirtol and Banka in Cuttack have been thoroughly protected—some new born children, some high caste people, and some remote places excepted; that the untouched places are the Soro, Baliapal and Basudebpore thanas in Balasore; and that excluding the abovementioned areas, the rest of the circle has been partially protected.

120. The report of this year affords the following facts under this head. The Degree of protection in the *Municipal Area*. towns thoroughly protected are Bankura, Brahmanberia, Colgong and Ramjibunpore; Rajmehal all, excepting five children of tender years; Deoghur and Sahibgunge all, excepting children of tender years; Bariepore all, excepting six or eight Ferazi families; Ghatal all, excepting those living in a few blocks of houses in village Konnagur; and nearly all Bogra. In the Howrah town the resident population has been almost wholly protected, but the floating population, consisting of Hindu and Mahomedan coolies, cannot be reached owing to constant changes. Similarly, the Barrackpore Cantonment cannot, owing to its floating and changing population, be kept thoroughly protected. With regard to the unprotected children in the Sahibgunge town, above alluded to, it appears that a proclamation had been made by the Municipality to the effect that it is optional with parents and guardians to vaccinate or not children under one year of age. Such a proclamation to ignorant people was sufficient to deter them from presenting such children for vaccination. I may here mention that a suggestion has been put forward by the Superintendent of Vaccination, Eastern Bengal Circle, viz., that as Jhalokati and Nulchitti are flourishing commercial towns, where there is a great influx of outsiders, that the vaccinators should, on the arrival of boats to the stations, board them and forthwith vaccinate the unprotected. The Chairmen of these Municipalities, to whom this suggestion was made, have approved of it.

Rungpore ...	Jamalpore in Monghyr.
Kushtea ...	Sherpore in Mynen-
Chagdah ...	sing.
Boernagore ...	Kissengunge.
North Barrackpore ...	Goulundo.
North Dum-Dum ...	Madaripore.
Kotechandpur ...	Naraingunge.

On the other hand it is reported that the towns named in the margin have received partial protection by vaccination, and that all the rest of the Municipalities have had intermediate stages of protection afforded them from fairly well to very partial.

121. As usual humanized lymph was prepared during the recess in all the Vaccination Circles and distributed in the several areas to commence operations with. In the Metropolitan Circles, however, bovine lymph in tubes was distributed to the Inspectors of Vaccination for the establishment of virus in their respective jurisdictions, and when established, it was propagated by the arm to arm process. A similar procedure was observed in the Orissa Circle; but here humanized and English lymph were also employed for this purpose. This office was as usual supplied with humanized lymph by all the Vaccination Circles and with bovine lymph in addition by the Metropolitan and Orissa Circles. Both kinds of virus and, in addition, lymph received from England, were distributed by this office almost throughout the year to the Municipalities, Dispensaries, &c., in the Province, and to the following places, out of it, on special application, viz., to Dubri, Nowgong, Sibsagar, Sylhet, Cachar, Naga Hills, Cooch Behar, Bhutan, Indore, Jeddah, Manipur, Port Blair, Charikhur, in Central India, and some places in the North-Western-Provinces and Burma. To these places 2,199 tubes of humanized lymph, filled locally, 93 tubes of English lymph, and 2,600 tubes of bovine lymph and 744 vaccine crusts were supplied. Although humanized and English lymph failed in many instances, yet, on the whole, they were generally successful. The results with bovine lymph are mentioned in the next paragraph. Observing that non-success attended the earlier trials of both bovine and humanized in many cases, crusts were issued by this office in order that the vaccine operations of the year might not be delayed. It appears also that crusts were freely used in the Hazaribagh District, in parts of Lohardugga, and in the whole of the Political Estates, chiefly for want of vaccinifers, as the people absolutely refused to part with lymph from their childrens' arms.

122. The depôt for the supply of bovine lymph is situated in the Suburbs of Calcutta and is supervised by the Superintendent of Vaccination, Metropolitan Circles. Here 238 calves were vaccinated during the year, 46 for the Suburban Municipality, 64 for Government, and 128 for the Calcutta Corporation. All these calves were successfully vaccinated without a single failure or doubtful case. Since the inauguration of the scheme and up to the close of the year under review 896 calves have been operated on. There are four public vaccine stations in the town and eight in the Suburbs, and all were supplied with calves regularly. For the supply of calves to the town and for the services of four coolies to convey them to the stations and to look after them, the Calcutta Corporation pay Rs. 50 per mensem. The depôts are well attended on the evenings when calves are expected, indicating that the scheme is well appreciated, and this is particularly the case with Europeans, Eurasians and intelligent Hindus and Mahomedans, who prefer vaccination with virus from calves to all other modes of protection. The lymph in tubes was used in starting vaccination in the districts which comprise the Metropolitan Circles, and was supplied plentifully to the Sanitary Commissioner for distribution in the mofussil, and to other applicants. In this way, 7,624 tubes of the virus were issued from the Animal Vaccination Depôt.

Calf vaccination for the supply of virus was introduced this year into Orissa. The employment of bovine lymph in the Cuttack town having proved very satisfactory, a trial was made with 10 tubes of lymph from calves vaccinated by the Superintendent of the Orissa Circle. This trial having proved a failure, a second attempt was made. A supply of virus in six tubes was sent from this office towards the end of September. A calf was vaccinated with this lymph in 17 points and with humanized lymph in 3 points. The former proved successful, but not the latter. Encouraged by this success, the process was continued, and 24 calves were successfully vaccinated up to the 31st March, and vaccination with virus direct from the calves and by transmission by the arm to arm process was carried out. The results of the measure will be hereinafter mentioned. Moreover, a vaccinator with a vaccinated calf was sent to the Balasore town to establish calf vaccination there, and several places were supplied with bovine lymph. The Civil Hospital Assistant, Meer Koomar Ally, who conducted the scheme, and to whom great credit is due, suggests that, considering the satisfactory results obtained from bovine lymph and the difficulties

experienced in obtaining humanized lymph in Cuttack, where parting of the virus from the arms of children is most strongly opposed, a depôt be established for the supply of bovine lymph to the entire circle. The Civil Surgeon supports the Civil Hospital Assistant's view of the subject, and notes that the scheme has placed at command an unlimited supply of lymph, by which not only the objection by the people to part with lymph from their children's arms, the great difficulty in the way of progress of vaccination has been overcome, but that, what is more important, the virus is certain and effectual, so that failures are now almost *nil*. The Superintendent of the *Orissa Vaccination Circle* also vaccinated three calves with bovine lymph obtained from Calcutta and one calf with English lymph. Both the operations produced several good and genuine vesicles, and the virus thus obtained was employed in vaccinating subjects in Cuttack, and then stored in tubes and distributed to the vaccinators to commence operations within their several jurisdictions. Satisfactory success attended the measure as will be presently shown. A beginning in bovine vaccination was also made in the *Sonthal Pergunnahs Circle*. Calves were vaccinated in the sub-division of Pakour, and a Mahomedan vaccinator vaccinated many children with the virus taken directly from them. The results are said to have been satisfactory, and the character and quality of the vesicle raised typical. The cause which originated the scheme was novel. As cows were dying in numbers from small-pox in the above-named sub-division, the people requested the vaccinator to vaccinate their cows and bullocks. This was done, and it is said that the vaccinated animals did not contract the disease subsequently. The operation was commenced with virus taken from the arm of a child vaccinated with humanized lymph and the virus in the vesicles which were thus raised was transmitted from animal to animal. Statements of this kind must, however, be received with great caution. The Civil Surgeon of Balasore having, as above stated, obtained a vaccinated calf from Cuttack, is making arrangements for carrying on vaccination with virus taken direct from calves. The Civil Surgeon of *Puri* has had a Hindu compounder trained under the Superintendent of Vaccination, Orissa Circle, in vaccination both by humanized and bovine lymph, with the view of starting calf vaccination in the town. His object for adopting the scheme is not only to maintain a ready and continuous supply of virus, but also to promote vaccination by having always in hand fresh lymph.

123. The subjoined table exhibits the number of vaccinations which were performed during the year with bovine lymph and the results. The figures do not include those of the areas, specially municipal, where it was manifest that due attention had not been paid to the subject, and where the earlier trials having proved unsuccessful further ones were abandoned :—

DESCRIPTION OF VIRUS.	CIRCLES.	Total number vaccinated.	PRIMARY.		RE-VACCINATION.		PERCENTAGE OF SUCCESSFUL CASES.	
			Total number vaccinated.	Number successfully vaccinated.	Total number vaccinated.	Number successfully vaccinated.	Primary.	Re-vaccination.
Direct from Calf	Calcutta	2,687	2,083	1,770	504	87	86.55	17.26
	Central Depôt	466	46	42	419	61	100	16.80
	Suburbs of Calcutta	1,420	1,148	1,115	281	96	78.79	32.82
	Orissa	173	173	170	.....	.....	98.26	.....
	Sonthal Pergunnahs	117	117	117	.....	.....	100	.....
	Total	4,771	3,567	3,214	1,204	234	91.54	20.72
With Calf lymph in Tubes	Darjiling	67	67	45	.....	.....	67.16	.....
	Eastern Bengal	169	169	80	.....	.....	47.33	.....
	Orissa	374	374	356	.....	.....	95.18	.....
	Sonthal Pergunnahs	73	73	46	.....	.....	63.01	.....
	Behar	50	50	15	.....	.....	30.00	.....
	Municipalities	914	914	778	.....	.....	85.12	.....
	Total	1,647	1,647	1,320	.....	.....	80.14	.....
By Transmission of Calf lymph by Arm to Arm.	Calcutta	7,976	7,586	7,070	300	13	93.19	5.60
	Metropolitan	374,390	374,364	373,357	24	17	99.75	65.38
	Suburbs of Calcutta	12,443	8,020	6,388	3,523	1,673	98.01	58.47
	Darjiling	69	69	67	.....	.....	97.20	.....
	Eastern Bengal	1,648	1,648	1,644	.....	.....	100	.....
	Orissa	12,506	12,506	11,579	.....	.....	92.54	.....
	Sonthal Pergunnahs	15,615	14,497	14,412	1,118	1,056	90.48	94.46
	Behar	445	445	438	.....	.....	98.27	.....
	Municipalities	4,269	4,259	3,944	10	10	92.00	100
	Total	429,861	424,294	420,903	5,067	2,769	99.44	65.19
Total of Vaccination circles		430,598	424,305	420,715	6,261	2,991	99.38	55.73
Total of Municipalities		5,183	5,173	4,732	10	10	91.29	100
GRAND TOTAL		435,779	429,568	425,437	6,271	3,001	99.29	55.92

The above table is defective in the following respect: viz., that under the head of "by transmission of calf lymph by arm to arm," the operations exhibited for the Metropolitan Circles include those performed with lymph in tubes, as the details of the two classes of operations were not kept separately. The vaccinations under the latter head were, however, very small, and cannot affect either way the results under that head. I have nothing to add with regard to the above record to what I stated on the subject in my last year's report; for again, with greatly extended operations, the results realized by vaccinating direct from the calf and by the second transmission of the virus were eminently satisfactory, and that those obtained by the employment of lymph stored in tubes were, on the whole, as fair as in 1885-86. But, considering that when this lymph is extensively used it results in success and that limited and sporadic trials end in disappointment, I am satisfied that its application to bodies of men such as soldiers, convicts, &c., would prove useful.

124. Out of the areas named in the foregoing table, the non-success of vaccination with bovine lymph in tubes was almost general, particularly in Municipalities, and specially in the minor ones. The want of success in Municipalities is an expected event, for vaccination in most of them, whether with bovine or humanized lymph, is conducted in a perfunctory manner. The reported general causes of the inertness of the virus were the same as those which have been mentioned in my Annual Reports of past years and need not be recapitulated here. But chief

Kept in hand.				Percentages of success to total number vaccinated.	
For	2	days	...	...	84
"	4	"	...	...	79.2
"	6 to 8	"	...	...	72
"	9	"	...	...	71
"	11	"	...	...	70
"	11 to 50	"	...	...	74
"	100 to 200	"	...	...	66
"	500 to 600	"	...	...	33
"	700	"	...	...	5.5

among them is deterioration caused by delay in transit to its destination. On this point, I beg to present the marginal figures obtained from the National Vaccination Establishment (Dr. Cory), London, lately ascertained but not yet published, regarding the results of bovine lymph stored and kept in hand for different periods before use, and to state, with regard to the lymph issued from this office, that it is always received from the Metropolitan Circles by about 12 o'clock of the day on which it is put in the tubes, issued by this office on the same day, and reaches its destinations within two to six days. Under this arrangement the mean percentage of success achieved, taking all vaccinations, whether altogether and partially successful, or unsuccessful, into account, was 88.94. I regret that detailed data are not available for comparison with the English figures. In this connection I should, however, mention, in illustration of the observation above made to the effect that failures are a consequence of want of care in, and attention to the subject, that it is most remarkable that the reports from distant places, such as Manipur, Nepal, Cooch Behar, Naga Hills, Cachar, Sylhet, Dhubri, to reach which greater time is occupied, show that the operations with bovine lymph were uniformly and altogether successful, while in places in Bengal, accessible by rail, the results were a failure. For the above reasons it appears to me that delay is not so much to blame for non-successes as faulty application and storing. I shall submit observations on the latter point further on. I now propose to record some well considered opinions on the subject under discussion. The report from *Calcutta* shows that, although personally looked after with care by the Deputy Superintendent, bovine lymph did not yield the same percentage of successful cases as arm to arm vaccination, and that the vesicles invariably ran a slower course, and, considering their age, were smaller than those produced by humanized virus. *Metropolitan Circles*.—Dr. Gupta reports that calf lymph in tubes was exclusively used in starting the operations, and, after a few failures in some places, it succeeded everywhere. The character of the lymph he says was good. He, however, admits that the lymph when sent in tubes to distant places decomposes and loses its virility in accordance with the temperature of the season. The experience in the *Darjiling* Circle goes to show that although the operations with bovine lymph direct from the tubes failed in the great majority of cases in which it was employed, arm to arm vaccination with this virus, when once established, proved invariably successful. The Superintendent of Vaccination *Sonthal Pergunnahs* Circle, reports:—"The character and quality of the operations carried on with bovine lymph were typical and satisfactory. Fresh bovine lymph acts in a similar manner as good humanized lymph, but

the operations performed with the former are attended with a greater degree of constitutional and local irritation as manifested by stronger fever and wide and more fully developed areola." In the *Eastern Bengal Circle* this lymph was found on receipt to be, with a few exceptions, good, containing clear virus with no trace of blood. Still, however, notwithstanding that every precaution was exercised, many tubes failed. From the cases that proved successful the Superintendent is inclined to believe that the virus is not in any way inferior to humanized lymph, as when established it produces as typical vesicles as the other virus. The Superintendent of the *Behar Vaccination Circle* holds to the same opinion, and adds that very nearly the whole of those who were vaccinated by the second transmission of this virus were successfully operated on. Two supplies of bovine lymph were sent to the *Orissa Circle* from this office in August and September. With those 54 persons were operated on and the operations were attended with 46 successes. The virus thus established was distributed in tubes throughout the circles, and 92·27 per cent. of the operations performed proved successful. The Superintendent's opinion with regard to this virus is that it is much superior to humanized lymph in respect to raising typical vesicles. In the *Rungpur town* the trials with this lymph in October failed owing to the heat of the weather; those conducted in November resulted in 104 successes in 108 cases, and after this the virus was transmitted by arm to arm. Dr. Dutt, the Civil Surgeon, states that bovine lymph when successful gives better vesicles than humanized lymph. Similarly, the earlier supplies failed in the *Pubna, Noakhali and Comillah towns* and those sent in November succeeded, and the vesicles obtained were satisfactory. The success with bovine lymph in the *Chupra, Revilgunge, Sewan, Gopalgunge, Bhori, Hutwa, Rajmehal, Sahibgunge, Colgong, Hazaribagh and Purulia towns* was great. In many of these places bovine lymph was found sufficient and humanized lymph not required. The reports from the towns named in the margin indicate that vaccination was established in them with bovine lymph and that this virus was superior to human-

Bali.
Bhudressur.
Boudinbatti.
Satkhira.

Debhatta.
South Suburban
town.
Bansberia.
Northern Bengal
State Railway.

ized lymph.

125. Dr. Gupta, the Superintendent of Vaccination, Metropolitan Circles, whose experience in the matters is great and extended, says that the assertion of Assistant Surgeon Ram Chandra Mitra, Deputy Superintendent of Vaccination, Calcutta, that the failure of points with bovine lymph exceeds that with humanized lymph does not accord with the experience of the Deputy Superintendents, past and present, of the Suburbs of Calcutta. He, however, explains that if the failure of points does occur, it might be due to the fact that sometimes serum only is squeezed out by the pressure of the forceps, especially towards the end when all genuine lymph has been extracted. He then submits the following fact in illustration of his opinion that the deterioration or otherwise of lymph stored in tubes is mainly dependent on atmospheric temperature. In December 1882 the first calf was vaccinated in the Animal Vaccination Depôt with lymph in tubes a month or more old, having been brought from Bombay by Babu Ram Soonder Ghose, Rai Bahadoor. On the second or third day after the operation the Babu was dissatisfied with the result, and, anticipating failure, telegraphed to Bombay for a further supply of fresh lymph. But, before this arrived the calf presented genuine vesicles on the fifth and seventh day, and other calves were successfully vaccinated from the virus thus obtained. He mentions that he observed in the Central Animal Vaccination Depôt in London under Dr. Cory that ivory points charged with calf lymph, or what appeared to be coagulated blood, was put into small envelopes and posted to different parts of the country; that the vaccinations with this virus were satisfactorily successful; and that tubes are not used except for despatching the lymph to India and the Colonies. He regrets that the vaccination season in India should commence in September, October, or November, the most sultry and unfavourable months of the year, for he has observed that calf lymph stored in December and January gave more successful results than those stored in the unfavourable months above mentioned. Dr. Gupta made some experiments on the action of corrosive sublimate on bovine lymph in view to prevent its decomposition in tubes, but the results obtained were not decisive, and the trials could not be conducted

Suggestions for the better success
of operations with Bovine Lymph.

to a final issue owing to his having had to leave on deputation to military duty and to the Assistant Surgeon in charge of the Animal Vaccination Depot having been removed to another appointment when he had just begun to carefully study the subject of storage and better modes of operating. It is proposed to repeat the above and other experiments this year during the recess. Dr. Lyons, the Civil Surgeon of Dumka, finding that bovine lymph failed constantly in the hands of the Civil Hospital Assistant, determined to perform the operations himself. He accordingly, on receipt of the next supply of lymph, vaccinated three children with it in the usual way, that is with the lancet, and was surprised that the operations failed, although the lymph appeared to be good. He then resolved to try vaccination with needles, a process which he had adopted in Eastern Bengal. Accordingly, with another supply of lymph, he vaccinated a European child in February in three places on each arm, using the lymph freely. After the left and one point on the right arm had been operated on, there occurred some delay in extracting the lymph from the one remaining tube, and the child having become troublesome, further delay occurred, so that the lymph poured on the glass dried up and a little tepid water had to be added to enable him to complete the operation. The results of this trial were as follows: No vesicle appeared on the left arm, nor at the site of first abrasion on the right arm, but on the other two sites into which diluted virus had been inserted *three* perfectly formed vesicles rose, the lowest having two separate ones on it. A Babu's child was next successfully vaccinated from virus taken from this arm, and after this the virus was maintained by the arm to arm process continuously until 54 cases without a single failure had been reached. Dr. Lyons is of opinion that "in this dry climate the lymph hardens so rapidly that, even in the process of applying, it dries to such an extent that it cannot be absorbed, especially in punctures where no doubt the flap of cuticle pushes back the lymph along the lancet." Judging from the lesson that may be learned from the case just related, it would seem that the lymph, though viscid, retains its vitality, but sometimes needs dilution to render it easy of absorption. In using preserved lymph, Mr. Lyons only followed the dictum of M. Warlomont, the founder of the State Vaccine Institute of Belgium, who says that with preserved bovine lymph "scarifications should be used to the exclusion of every other mode of introduction."

126. The marginal table exhibits the total number of vaccinations which

WORK OF THE YEAR.

Total number of Vaccinations performed.						
Circles.					1885-86.	1886-87.
Calcutta	...	...	...	...	10,503	12,365
Metropolitan Circles	...	...	...	...	373,900	373,347
Suburbs of Calcutta, including Operations in Central Vaccination Depot	...	...	...	...	14,337	14,044
Total of Metropolitan Circles	...	...	...	...	388,237	387,391
Darjiling Circle	...	...	...	...	290,291	252,562
Ranchi	...	...	...	...	169,385	126,426
Sonthal Pergunnahs Circle	...	...	...	...	143,913	114,539
Eastern Bengal Circle	...	...	...	...	387,281	286,032
Orissa Circle	...	...	...	...	60,277	57,681
Behar	...	...	...	...	65,739	47,178
Total of Vaccination Circles	...	...	...	...	1,522,176	1,284,174
Municipalities, Dispensaries, &c.	...	...	...	...	88,101	84,822
GRAND TOTAL	...	...	...	...	1,610,277	1,368,996

were performed during the year under review in comparison with the outcome of the preceding year. This comparison indicates a marked improvement in the work of this year, inasmuch as 241,281 additional operations were performed, and all the Circles, including the Municipal Area, contributed to the excess, excepting Calcutta, where a diminution of 1,802 operations occurred. The percentages

of the enhanced contributions, which illustrate the relative merits of the work of the circles, stand as given in the margin. It should, however, be mentioned that in the Ranchi Circle 1,945 of the operations were performed in 1885-86, but not having been submitted in time by the operators, could not be included in the returns of that year, and had consequently to be brought over to the record of this year. The causes of the diminution of operations in Calcutta are said to be (1) paucity of unprotected children; (2)

Behar	Circle	28.23	Orissa Circle	...	12.96
Eastern Bengal	"	26.14	Municipal Area	...	3.72
Ranchi	"	25.86	Suburbs of Calcutta	...	2.04
Sonthal Pergunnahs	"	20.41	Metropolitan Circles	...	2.27
Darjiling	"	12.99			

tors, could not be included in the returns of that year, and had consequently to be brought over to the record of this year. The causes of the diminution of operations in Calcutta are said to be (1) paucity of unprotected children; (2)

diminution in number of subjects, consisting chiefly of the crews of the Maldiv and Arab crafts, to be operated on in the Port of Calcutta ; and (3) only 31 vaccinations having been performed in the Presidency Jail against a large number during the preceding year. In the rest of the circles (excluding the Metropolitan) where an increase of operations as above mentioned occurred, the following causes have been put forward as accounting for the increment.

Darjiling Circle.—The general increase is simply traceable to the transfer during this year of the Pubna district with its Inspector and 28 Licensed Vaccinators to this circle, who brought in 41,692 operations. Eliminating this addition there was a diminution in the operations performed in the circle as it stood last year of 3,963, and this is accounted for by the presence of cholera in some of the districts and paucity of subjects for operation, particularly in Bogra and Jalpaiguri.

Ranchi Circle.—All the improvement in this circle was accomplished by and was due to the activity of the *Licensed* agency, for there was a diminution in the operations performed by the *Government* agency. This is traced to want of energy on the part of the vaccinators and to the work having been conducted in an irregular and unmethodical manner. It should be mentioned here that although creditable improvement has been effected in the work of this year by the present Superintendent, a very great drawback to the progress of vaccination in this circle has hitherto been a continuous change of Superintendents. From a calculation made in this office it appears that no less than 14 officers had charge of this circle from 1863 up to the present time. In the *Sonthal Pergunnahs* Circle the increase in the work of the *Government* agency was due to the greater number of the villages taken up being new, presenting consequently a large number of unprotected children for vaccination ; (2) to the inspection of the work being frequent, the superintendent having visited the villages seven times, explaining to the people the benefit to be derived from vaccination and impressing upon them that they were indebted to the bounty of Government for its advantages without having to pay for them ; and (3) to the great assistance rendered to the cause of vaccination by the Monghyr District Superintendent of Police who induced the people to accept it. The increase in the work of the *Licensed* agency was due chiefly to the more extended supervision exercised by the appointment of three Inspectors for the Bhagulpur and Monghyr districts. There was, however, a large decrease of operations in the Sonthal Pergunnahs district amounting to 12,150. This is attributed to paucity of subjects for vaccination, the district having been traversed by Vaccinators for years in succession. In the *Eastern Bengal* Circle the whole increase was on the side of the *Government* agency, and was achieved in the face of a large number of the establishment suffering from fever which was very prevalent, so that two of the men died and nine were totally unfitted for duty and had to resign. The decrease in the work of the *Licensed* agency was attributed, (1) to work having been commenced late in October owing to the inundations not permitting the Vaccinators to proceed to the localities selected for operations ; (2) to severe outbreaks of cholera interfering with the vigorous pushing on of vaccination, and the presence of fever stopping operations altogether ; (3) to the transfer of the Pubna district to the Darjiling Circle whereby the area of work was diminished and the number of operations consequently reduced ; (4) to paucity of subjects in Noakhali which, although transferred to the *Licensed* agency had been over-run exhaustively by the Government Agency before ; and (5) generally to paucity of subjects in areas which had been traversed before. The general and unprecoded increase in the number of the operations performed in this circle this year is rightly said to be mainly due to the strict supervision exercised by the Superintendent over the work of his subordinates by frequent inspections thereof.

Behar Circle.—Here the increase was due to the extension of vaccination to six thanas in Shahabad. In the *Orissa* Circle the increase was accomplished by the *Licensed* agency and is traceable to four additional thanas in Cuttack having been taken up by this agency. The decrease in work of the Government agency was said to be due to unusually heavy rains in October precluding travelling, and to sickness among the vaccinators.

127. Of the total vaccinations of the year in the Suburbs of Calcutta, 2,787 against 3,574 in the preceding year, were performed on the Coolies in the Emigration depôts prior to deportation. Dr. Gupta rightly observes that in estimating the value of the work done in the Suburbs this number should be eliminated, as it comprises people from different parts of the country and thereby leads to false conclusions as to the degree of protection afforded to the permanent residents.

128. In the town of Calcutta there is a female Vaccinator. She operated on 107 grown up Hindu and Mahomedan females, for which duty she has been entertained. This outturn is not large, but as the drawbacks to her fuller utilization have been removed by the amended Compulsory Vaccination Act, it is hoped that her services will be in greater requisition in the Hindu and Mahomedan zenanas, particularly in carrying on re-vaccinations. I may mention here that during the year I was consulted by Government on the subject of female vaccinators, on the motion of Surgeon-General E. Balfour, who believed that vaccination would be advanced by the employment of women in the Vaccination Department. I replied that I was not in favour of the employment of female vaccinators on the following grounds, viz., that vaccination had already progressed considerably and was freely accepted from the hands of the present agency, not even those who most rigidly adopt the zenana system demanding female vaccinators; that it would retard and complicate the working of the existing establishment if a new element were introduced difficult to control and very hard to move about; and that I was of opinion that in only large towns female vaccinators may be useful, although the experience in the Suburbs of Calcutta, where a female vaccinator had been employed, went to show that she was objected to by the heads of families.

129. Although there was, on the whole, a small increase (3,279) in the number of vaccinations performed in this area, individually considered no less than 92 out of 169—the total number of Municipalities under vaccination—returned reduced work,

	Decreased Vaccinations.		Decreased Vaccinations.
Howrah ...	2,248	Patna ...	513
Hughli ...	714	Roseah ...	500
City Murshidabad ...	704	Rungpore ...	463
Chunderkona ...	623	Baranagore ...	443
Ramjibunpore ...	572	Khulna ...	405
Ranchi ...	550		

conspicuous among them being those named in the margin. The reported causes of this retrogression may be summarized as follows: Paucity of subjects for vaccination; ill-health of the children available for vaccination;

unwillingness of parents or guardians to have their children vaccinated; their evasions or excuses whereby vaccination was delayed or altogether prevented; want of, or imperfect registration of births; repeated failures of lymph, both bovine and humanized, before it was established; inattention, carelessness, want of energy, incompetency, misconduct, &c, on the part of vaccinators; sickness and absence of vaccinators; charging them with other work besides vaccination, such as registration of births and deaths in some places; absence of small-pox which was epidemic last year and induced large numbers to be vaccinated; late commencement of vaccination; withdrawal of foreign population by which the number available for vaccination was reduced, e.g., coolies in jute mills, brick-fields, &c., labourers on Hughli Jubilee Bridge Works; and last, but not least, incomplete supervision by superior officers over the work of their subordinates.

130. Of the total vaccinations of the year, 30,226 were performed during the recess, and were undertaken, as usual, for establishing or maintaining lymph for the working season, or for suppressing outbreaks of small-pox. The marginal table shows the distribution of those operations in the several circles. Moreover, in the Metropolitan Circles the Inspectors were employed in taking the vaccine census of many villages; but the result has not yet been declared.

	Number of Operations.
Metropolitan Circles ...	9,112
Suburbs of Calcutta ...	4,885
Darjiling Circle ...	890
Eastern Bengal ...	5,196
Southal Pergunnahs ...	4,896
Ranchi ...	3,425
Behar ...	1,551
Orissa ...	571

131. This information is afforded in the marginal table.

Number of Primary and Secondary operations and rates of success achieved under both heads

CIRCLES.	PRIMARY.			SECONDARY.			INCREASE OR DECREASE OF SUCCESSFUL OPERATIONS IN 1886-87 AS COMPARED WITH 1885-86.		INCREASE OR DECREASE IN PERCENTAGES OF SUCCESSFUL CASES IN 1886-87 AS COMPARED WITH 1885-86.	
	Total number of operations in 1886-87.	Number of successful operations in 1886-87.	Ratio per cent. of successful cases in 1886-87.	Total number of operations in 1886-87.	Number of successful operations in 1886-87.	Ratio per cent. of successful cases in 1886-87.	Primary.	Secondary.	Primary.	Secondary.
Calcutta	9,609	8,840	92.04	894	100	13.58	1,338 D	87 D	1.28 I	1.10 D
Metropolitan Circles Suburbs of Calcutta, including Central Vaccine Depot and Cooly Depots ...	374,364	373,357	99.75	20	17	85.39	1,033 I	34 D	.08 D	16.35 I
Total of Metropolitan Circle	384,478	382,902	99.71	4,240	1,837	52.30	833 I	5 I	.06 D	4.33 D
Darjiling Circle	290,218	288,673	99.43	78	71	91.02	38,152 I	63 I	.06 I	48.93 I
Ranchi " " " " " "	109,264	107,727	98.72	121	83	68.59	42,893 I	31 I	.10 I	1.91 I
Sonthal Pergunnahs Circle	142,657	142,264	99.75	1,256	1,177	93.71	29,059 I	1,172 I	.04 I	85.38 I
Eastern Bengal Circle	387,252	386,006	99.74	29	27	93.10	101,824 I	7 I	.12 I	67.30 I
Orissa Circle	61,277	62,256	101.74	...	...	...	7,470 I	...	1.35 D	...
Behar " " " " " "	65,681	64,510	98.07	58	6	10.52	18,064 I	15 D	.49 D	15.80 D
Total of Vaccination Circles	1,515,491	1,504,138	99.51	6,085	3,301	57.02	235,959 I	1,172 I	.03 D	9.24 I
Municipalities, Dispensaries, &c.	87,036	81,020	94.75	1,005	658	64.32	3,951 I	601 D	.24 I	1.00 D
GRAND TOTAL	1,602,527	1,585,167	99.25	7,760	3,959	58.11	239,910 I	571 I	.02 I	5.20 I

as well as by the Municipal area. (3) That the areas which furnished the advanced results took rank in point of merit as follows:—Eastern Bengal Circle with 101,824 excess operations, Ranchi Circle with 42,893, Darjiling Circle with 38,152, Sonthal Pergunnahs Circle with 28,059, Behar Circle with 18,064, Orissa Circle with 7,470, the Municipal area with 3,951, and Metropolitan Circles with 1,033. (4) That in re-vaccinations there was, on the whole, an increase of operations in the *Vaccination* Circles of 1,172 operations against a decrease in the *Municipal* area of 601, culminating in an increase of 571 operations. (5) That taking the Vaccination Circles individually, excluding Orissa, in which no re-vaccinations were performed, improvement is seen on the side of Sonthal Pergunnahs, Darjiling, Suburbs of Calcutta, Eastern Bengal and Ranchi, and re-trogression on the side of Calcutta, Metropolitan, and Behar in the order named. (6) That with respect to success achieved in primary vaccinations the ratios indicate that all the Circles returned approvable results. Increase or decrease in re-vaccinations is greatly dependent on the presence or otherwise of small-pox. The high rates of success in these operations shown in the above table as having been attained in almost all the circles cannot be accepted as correct for reasons submitted in my former Reports.

132. The table in the margin, setting forth this information, indicates

Average number of Operations performed by each Vaccinator.

CIRCLES.	AVERAGE NUMBER OF VACCINATORS.		NUMBER OF OPERATIONS PER MAN.		DIFFERENCE IN 1886-87.	
	1886-87.	1885-86.	1886-87.	1885-86.	Increase.	Decrease.
Calcutta	19	19	556	651	.....	95
Metropolitan Circles	491	381	763	940	.....	217
Suburbs of Calcutta	14	16	1,044	196	.....	68
Total of Metropolitan Circles	505	397	770	978	.....	208
Darjiling Circle	397	190	731	1,329	.....	598
Ranchi " " " " " "	205	187	826	670	.....	150
Sonthal Pergunnahs " " " " " "	269	123	635	931	.....	306
Eastern Bengal " " " " " "	521	369	739	797	.....	58
Orissa " " " " " "	53	42	1,251	1,373	.....	122
Behar " " " " " "	124	147	530	321	.....	209
Total of Vaccination Circles	2,006	1,463	726	878	.....	152
Municipalities, Dispensaries, &c.	248	226	555	376	.....	20
GRAND TOTAL	2,344	1,689	687	811	.....	124

clearly want of energy on the part of the Vaccinators in the performance of their work. The large increase this year in the number of vaccinations performed, *vide* paragraph 126 is apparently mainly due to 655 additional Operators having been in the field. The marginal figures show that each Vaccinator performed, on the whole, 124

fewer operations than during the preceding year, and depreciation is seen in all the *Vaccination Circles* excepting Behar, Ranchi and the Suburbs of Calcutta, as well as in the *Municipal area*, conspicuously in the Darjiling, Sonthal Pergunnahs and Metropolitan Circles.

133. This information will be gathered from the table in the margin. It

Comparative value of work performed by the *Licensed* and *Government* Agencies.

	Number of Operators.	Total number Vaccinated.	Total number of Primary Vaccinations.	Total number of successful Primary Vaccinations.	Total number of successful Infant Vaccinations.	Total number of Children successfully vaccinated.	Total number of successful Adult vaccinations.	Average Operations by each Vaccinator.	Proportion of Population protected per 1,000.
Licensed Agency ..	1,811	1,110,973	1,109,461	1,105,335	175,079	795,550	134,100	613	21.79
Government Agency ...	285	411,203	406,030	398,803	33,833	230,723	128,247	1,443	7.89

calls for no comment, for the considerably larger number of primary vaccinations performed by the *Licensed* Agency as compared with that by the *Government* Agency was an expected event when the number of the Operators was also considerably larger; but it is evident that the *Government* Vaccinators exercised greater care and activity in the performance of their work than the *Licensed* Vaccinators, when it is seen that each of the former performed 830 more operations than each of the latter.

134. During the year under review, 832,337 males and 777,940 females were vaccinated, being in the proportion to population according to Sex of 3.11 and 2.91 per cent. respectively. Compared with the operations of the preceding year, it is seen that in the *Vaccination Circles* and the *Municipal area* combined a larger population of both sexes was protected, the increment being represented by .36 per cent. of male population and .37 per cent. of female. But, while the *Vaccination Circles*, taken as a whole, present a similar feature, considered individually, they exhibit much diversity both with regard to sexes protected and to

	Increase or decrease of population protected.			Increase or decrease of population protected.	
	Males.	Females.		Males.	Females.
Calcutta ...	.27 D	.71 D	Sonthal Pergunnahs	.58 I	.54 I
Metropolitan ...	.03 D	.01 I	Eastern Bengal ...	1.13 I	1.19 I
Suburbs of Calcutta	.58 I	.54 D	Orissa ...	.44 D	.12 D
Darjiling ...	.01 I	.02 I	Behar ...	.56 I	.55 D
Ranchi ..	.69 I	.65 I			

the extent of increased or decreased protection afforded, *vide* figures in the margin. In the *Municipal area* the male population was vaccinated at an equal rate in both years, viz.,

at 3.02 per cent. of that population, but the female population was protected to a greater extent, the increment being represented by .18 per cent. of the female population.

135. The returns of the year show that 6,188 Christians, 993,061

Vaccination according to Class or Religion.

	Proportion per cent. to each Class vaccinated.		
	In the Vaccination Circles.	In the Municipal Area.	Total.
Christians ...	5.15	5.03	5.13
Hindus ...	3.04	3.60	3.08
Mahomedans ...	3.06	3.19	3.07
Other races ...	1.27	4.22	1.28

These numbers bear to population of each of the Classes or Nationalities named, are shown in the margin. The figures indicate that the greatest protection was afforded to the Christians and the least to those coming under the head of "other races," while the Hindus and Mahomedans occupied an intermediate position, having been vaccinated at an almost equal rate. The Circles individually considered show that the Christians were better protected in the Sonthal Pergunnahs, Orissa and Eastern Bengal Circles and in the Suburbs of Calcutta, than in the rest of the circles, the Hindus in the Suburbs of Calcutta and the Ranchi and Eastern Bengal Circles, the Mahomedans in the Orissa Circle and in the Suburbs of Calcutta, and the other races in the Darjiling and Sonthal Pergunnahs Circles.

136. This information is combinedly submitted in the subjoined table to avoid elaboration, and the particulars regarding the number born refer to the seven years 1880-81 to 1886-87.

VACCINATION ACCORDING TO AGE IN 1886-87.							PROTECTION AFFORDED TO THE NUMBER BORN DURING 1880-81 TO 1886-87.											
CIRCLES.	AGES OF THE SUCCESS- FULLY VACCINATED in 1886-87.			PROPORTION PER CENT. TO TOTAL PRIMARILY VACCINATED IN 1886-87.			Population.	Estimated births from 1880-81 to 1886-87, at 30 per 1,000 of population.	Total number primarily vaccinated from 1880-81 to 1886-87.	INFANTS UNDER ONE YEAR.			Children of one year and under six years who were successfully vaccinated from 1880-81 to 1886-87.	Adults from six years and above who were successfully vaccinated from 1880-81 to 1886-87.	Ratio per cent. of infants (under one year) to estimated Births during 1880-81 to 1886-87.	PROPORTION PER CENT. TO TOTAL NUMBER PRI- MARILY VACCIN- ATED DURING 1880-81 TO 1886-87.		
	Under one year.	One year and under six years.	Six years and above.	Under one year.	One year and under six years.	Six years and above.				Who were successfully vac- cinated from 1880-81 to 1886-87.	Who died from 1880-81 to 1886-87.	Who remained unprotected at close of 1886-87.				Of infants under one year.	Of Children of one year and under six years.	Of Adults from six years and above.
Calcutta	4,176	4,172	492	46.12	46.08	5.43	433,219	90,979	61,001	23,307	17,883	40,789	31,408	5,076	25.61	36.41	40.16	6.86
Metropolitan ...	43,887	261,744	64,726	11.72	70.73	17.29	13,850,801	2,910,558	2,408,242	207,011	251,183	2,302,364	1,708,307	516,027	9.17	10.68	68.38	20.05
Annual Vaccina- tion Depot	31	7	4	73.80	16.00	9.82	251,439	52,801	74,350	14,328	12,354	26,119	40,003	9,031	27.13	19.27	54.61	12.14
Suburbs of Cal- cutta	2,077	5,440	1,086	30.72	56.14	11.31												
Total	46,895	270,191	65,816	12.21	70.35	17.13	14,111,240	2,963,359	2,572,592	281,339	263,537	2,418,483	1,749,000	525,058	9.40	10.03	67.98	20.40
Darjiling	62,295	208,656	17,782	21.54	72.23	6.15	10,082,617	2,117,385	1,962,045	366,462	120,552	1,620,981	1,313,570	264,005	17.92	18.69	61.91	13.46
Ranchi	42,208	118,223	7,23	26.13	70.20	4.30	4,364,683	916,454	1,013,264	237,621	78,726	600,107	653,050	89,781	25.92	23.46	62.76	8.76
Sonthal Pergun- nahs	16,987	119,297	6,980	11.21	63.65	4.89	5,334,716	1,202,287	802,250	86,376	91,775	942,137	601,280	111,018	7.71	10.78	74.94	13.84
Eastern Bengal ..	28,743	206,601	161,622	7.42	63.30	39.16	10,540,789	2,215,458	2,247,122	186,612	101,781	1,838,065	1,204,277	762,393	8.37	8.23	57.59	33.92
Orissa	3,01	51,736	4,507	4.54	82.60	6.80	2,541,300	533,694	352,504	18,847	83,042	431,805	248,871	72,346	3.63	5.34	70.28	20.51
Behar	0,103	50,403	7,912	0.47	77.09	12.10	3,369,865	707,072	253,307	21,681	190,620	495,362	202,079	24,332	3.06	8.05	80.3	9.00
Total of Vaccin- ation Circles ...	208,512	1,032,274	262,347	13.86	68.29	17.35	50,787,125	10,605,298	9,267,175	1,221,644	1,037,925	8,405,729	6,077,410	1,833,729	11.45	13.18	63.57	20.0

The results disclosed by the above table are disappointing. It shows that during the seven years under notice, of the estimated births amounting to 10,605,298, only 1,221,644, or at the rate of 11.45 per cent. underwent vaccination, thus indicating that over 88 per cent. remained in the Province in an unprotected condition, and liable to be attacked by small-pox. The Circles relatively considered show that, while Calcutta and its Suburbs and the Ranchi Circle have done best in this direction, there exist serious defects in all the Circles. Calculated on the total number primarily vaccinated, infant vaccinations exhibit very little better results, the same circles as above mentioned also taking the lead. Of the two remaining classes of vaccination under this head, viz., of children and adults, the former appear to have been fairly well vaccinated, and the latter to approach the mark which, under existing circumstances, may be expected. The chief reason why infants cannot be overtaken by vaccination is no doubt the strong and universal objection on the part of their parents or guardians to permit them to be operated on when of tender age, fearing evil consequences. It must not be forgotten, however, that these birth statements refer to the whole Province, and that up to this time vaccination has not been extended to five districts in Behar and one in Bengal. Till establishment is provided for them, the protection of the Province as a whole will remain very incomplete. The general features presented by the figures of the year under review bear a close analogy to what has been said above, and need not therefore be dwelt upon separately.

137. In presenting in the margin the statement affording this information, I beg to preface it with the observations that, I had had during the year personal interviews with the Superintendents of Vaccination, when I enquired into the manner in which inspections of vaccinations were being carried on by them and their subordinates, and

Degree of supervision exercised by the Inspecting Officers over the work of the Vaccinators.

Work of Sanitary Commissioner.

CIRCLES.	NUMBER OF INSPECTING OFFICERS.			NUMBER OF VILLAGES VISITED BY—			PROPORTION PER CENT. OF SUCCESSFUL CASES OBSERVED BY—			PROPORTION PER CENT. OF INSPECTION TO TOTAL NUMBER VACCINATED.		
	Superintendents.	Deputy Superintendents.	Superintending Vaccinators.	Superintendents.	Deputy Superintendents.	Superintending Vaccinators.	Superintendents.	Deputy Superintendents.	Superintending Vaccinators.	Superintendents.	Deputy Superintendents.	Superintending Vaccinators.
Calcutta	1	1	1	The whole area.			94.15	96.57	96.89	1.01	49.50	28.63
Suburbs of Calcutta	1	1	2	586	2,642	10,003	99.86	94.20	82.61	8.90	16.64	63.15
Metropolitan Circle	1	4	39	424	884	6,135	99.71	99.10	99.75	6.40	28.83	87.90
Darjiling	1	1	13	780	741	4,709	96.90	95.08	94.42	4.82	8.62	56.70
Ranchi	1	1	15	780	741	4,709	96.90	95.08	94.42	4.82	8.62	56.70
Sonthal Pergunnahs Circle	1	1	17	7.7	...	4,360	90.75	...	90.43	14.88	...	70.79
Eastern Bengal	1	1	5	312	338	2,940	90.49	92.02	90.04	6.07	2.30	38.20
Orissa Circle	1	1	6	1,721	...	1,573	90.56	...	97.45	79.19	...	69.65
Behar	1	1	10	432	...	2,577	95.04	...	98.00	12.42	...	72.49
Total	8	10	108	4,982	4,605	32,417	96.82	98.39	97.85	10.92	10.87	62.23

corrected any departures from my original instructions on the subject as to the plan on which the work should be carried on, *vide* paragraph 117; that in some places I personally examined the quality and sufficiency of the vaccinations being performed; and that I carefully examined the monthly diaries—192 in number—in which the inspection work performed by the Superintendents, the Deputy Superintendents and the Inspectors of Vaccination were regularly reported, and corrected every irregularity which was detected to have been committed, by calling upon them for explanations with regard to lapses in their tours, to not proceeding to the interior of their respective charges, but confining their inspections to the neighbourhood of their head-quarters; to passing over, without inspection, areas which lie between other areas inspected; to insufficient inspections; to insufficiency and bad quality of the vaccination performed; to inadequate control over the subordinate agency; to non-verification of births and deaths; and to the other shortcomings. I should mention that this procedure entailed much correspondence, for the explanations submitted had to be carefully sifted.

138. From the table above marginally furnished, it will be seen that there

Work of Superintendents, Deputy Superintendents and Subordinate Inspecting staff.

CIRCLES.	INCREASE OR DECREASE IN THE NUMBER OF VILLAGES VISITED BY—			INCREASE OR DECREASE IN THE PROPORTIONS PER CENT. OF INSPECTIONS TO TOTAL NUMBER VACCINATED.		
	Superintendents.	Deputy Superintendents.	Subordinate Inspecting staff.	Superintendents.	Deputy Superintendents.	Subordinate Inspecting staff.
Calcutta	The whole area			1.71	D	24.07
Suburbs of Calcutta	151	I	513	I	3.83	I
Metropolitan Circle	7	D	10	D	2.13	I
Darjiling	168	I	223	I	1.08	I
Ranchi	160	D	162	I	4.50	D
Sonthal Pergunnahs	245	I	162	D	4.15	I
Eastern Bengal	474	I	606	I	7.82	I
Orissa	18	D	948	I	8.96	D
Behar ... ..	...	...	...	...	...	...

was on the whole much improvement in the inspection work of all three class of Officers indicated therein, excepting in one case, in comparison with the work of the preceding year, for the Superintendents appear to have visited 847 additional villages, the Deputy Superintendents 555, and the subordinate Inspecting staff 194—and that the percentage of the total number of vaccinations examined by the first-named Officers was in excess by 1.55 and by the last-named by 3.69. The exception was the Deputy Superintendents who, although they visited a larger number of villages, fell short in the vaccinations tested by 2.87 per cent. of the total operations seen by them. Examining the figures appertaining to *each* Circle, the inspection work performed by these three classes of Officers stands, in point of merit or demerit, as noted in the margin. In reviewing those figures attention is attracted to the facts that, the great majority of the Superintendents returned higher percentages of vaccinations tested, that the same was done by the subordinate Inspecting staff of all

the circles excepting Sonthal Pergunnahs, and that the general falling off in the same work by the Deputy Superintendents, above alluded to, was contributed to by the Deputy Superintendents of *all* the circles.

Various causes have been put forward to account for the shortcomings where they exist. I consider them to be, with some exceptions, more or less satisfactory; but to reproduce them here would simply expand my Report, which, for certain important reasons, has already exceeded due limits. The exceptions follow: *Superintendents*.—The inspection work, considered as a whole, of Dr. Wood, of the *Darjiling Circle*, was not satisfactory. Assistant Surgeon Kali Prosonno Ghosal of the *Sonthal Pergunnahs Circle*, who was in charge thereof for the greater portion of the working season, is seen to have returned less work for no reason that has been furnished. Assistant Surgeon Mothura Nath Sen of the *Behar Circle*, whose work has been unfavourably commented on before, appears to have made no improvement this year, but, on the contrary, his inspections of vaccinations performed were most conspicuous for deficiency, the percentage of such inspections being lower than that of the preceding year by so much as 8.96. *Deputy Superintendents*.—*Metropolitan Circles*.—Dr. Gupta deems the work of Assistant Surgeon Jadub Chandra Ghose, Deputy Superintendent, 2nd Metropolitan Circle, to be satisfactory, considering that he officiated as Superintendent during October and almost the whole of November. It is clear, however, that the rules on the subject of inspections, particularly that portion thereof relating to the testing of vaccination in each area in which it was being carried on in succession, were not attended to by *all* the Deputy Superintendents, for the Deputy Superintendent of Vaccination, 1st Circle, Umesh Chandra Ghose, had omitted to visit two thanas in Jessore and three in Khulna; the Deputy Superintendent, 2nd Circle, Preumber Mitra, four thanas in Nudda, and one each in Birbhum and Murshidabad; that of the 3rd Circle, Jadub Chandra Ghose, one thana each in Hughli, Howrah and 24 Pergunnahs, and three in Burdwan; and that of the 4th Circle, Ashootosh Law, 12 thanas in Midnapore and two in Bankura. Some untenable reasons were submitted for the omissions. Assistant Surgeon Durgadas Rai, of the *Eastern Bengal Circle*, fell off considerably in his inspection work. His explanation is that the inundations precluded his proceeding on tour as early as was desirable, and that much of his time was occupied in starting and introducing vaccination in the Noakhali district. *Inspectors and other Officers of the same rank*.—The Officers of this class whose inspection work was prominently condemned as bad, insufficient, and careless were:—Hidayatullah, M. M. Sen, and Abdool Hamid of the *Darjiling Circle*; Alumuddin, Mohamed Ali, and Luchmun Sahi of the *Ranchi Circle*; Hari Charan Banerjee and Haradhane Sen of the *Sonthal Pergunnahs Circle*; Mahamed Idris, Tamizzuddin, Annunda Chandra Das, and Baikant of the *Eastern Bengal Circle*, and Kanti Chandra Acharji of the *Behar Circle*.

On the other hand, it would not be fair not to bring to prominent notice those Officers who have performed creditable work. They are—*Superintendents*:—Dr. Gupta of the *Metropolitan Circles* deserves special commendation, for although he returned from military deputation duty late in November, when the working season had somewhat advanced, he visited an appreciably large number of villages and tested a fair percentage of vaccinations. Assistant Surgeon Kassinath Ghose of the *Ranchi Circle* performed creditable inspection work, and has managed to reform, to some extent, the hitherto conspicuously unruly establishment attached to his Circle, which is evident from the considerably reduced number of cases of misconduct which cropped up during the year. Assistant Surgeon Narendro Nath Gupta of the *Eastern Bengal Circle* performed commendable work in the face of many difficulties encountered in travelling, and he appears to have reduced the establishment which had been disorganized during the former Superintendent's incumbency to system and order. Assistant Apothecary P. Veeriah Naidu is also to be commended for very good work. *Inspectors and other Officers holding the same rank*.—The Officers of this class who were reported to have performed their inspection work zealously, energetically, and satisfactorily were: Jowahri Lal, Shunker Lal, Mohamed Ali Khan, Chuter Bhuj Lal, and Basudhon of the *Ranchi Circle*; Ram Chandra Mullick, Mohim Chandra Bhumick, and Abdul Bari of the *Eastern Bengal Circle*; Basarakulla and Girja Prashad Doobay of the *Behar Circle*.

139. In this area the work of the vaccinators is in very rare cases closely inspected. Some verification there is, but it is performed generally spasmodically and loosely,

Work in the *Municipal Area*.

and the instances are not rare in which this work is most perfunctorily performed. The general plea is want of time preventing the Medical Officers from according their full attention to this subject. In this connection the Civil Surgeon of Darjiling recommends that the Superintendent of Vaccination, Darjiling Circle, whose head-quarters are at Darjiling for a considerable portion of the year, should look after the municipal vaccination from time to time. This I did voluntarily when I was Superintendent of Vaccination, but the orders placing the vaccination of Sudder towns under the Civil Surgeons, and that of outlying towns under Superintendents of Vaccination, may not permit of this.

140. The expenditure which was incurred for conducting vaccination during the year under review, and the average cost of each successful operation.

CIRCLES.	TOTAL COST IN 1886-87.			AVERAGE COST OF EACH SUCCESSFUL CASE, 1886-87.		
	Government Agency.	Licensed Agency.	Total.	Government.	Licensed.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Calcutta	8,534 9 0	.....	8,534 9 0D	0 15 3	.....	0 15 3
Metropolitan Circles ...	.....	36,097 2 8	36,097 2 8D	.....	0 1 7	0 1 7
Bovine Vaccination Depôt in the Suburbs.	3,197 6 11	.....	3,197 6 11D	0 11 0	.....	0 11 0
Suburbs of Calcutta ...	4,024 14 7	.....	4,024 14 7D	0 11 0	.....	0 11 0
Total of Metropolitan Circles	7,822 5 6	36,097 2 8	43,919 8 2	0 11 0	0 1 7	0 1 10
Darjiling Circle	1,208 8 37	24,684 13 5D	25,893 5 8D	0 1 9	0 1 5	0 1 5
Ranchi	9,900 1 2D	3,847 12 8 1	13,813 13 10D	0 5 4	0 0 5	0 1 3
Southal Pergunnahs Circle ...	10,578 1 11D	1,796 14 1 1	12,375 0 0D	0 2 5	0 0 4	0 1 4
Eastern Bengal	14,093 5 0D	4,901 13 0 1	19,055 2 6D	0 1 2	0 0 5	0 0 9
Orissa Circle	6,520 7 7D	552 12 7 1	7,073 8 9D	0 2 1	0 0 8	0 1 0
Bihar	9,267 1 8D	1,552 5 7 1	10,809 7 8D	0 4 5	0 0 9	0 2 8
Total of Vaccination Circles ...	67,980 7 8	74,093 10 6	1,42,074 2 2	0 2 8	0 1 0	0 1 6
Municipalities, &c. ... ..	.....	.....	12,010 3 6 1	.....	.....	0 2 4
GRAND TOTAL	67,980 7 8	74,093 10 6	1,54,084 5 8	0 2 8	0 1 0	0 1 7

the average cost of each successful operation are exhibited in the marginal table. From the figures it will be seen that the total cost amounted to Rs. 1,54,084-5-8, and that of this sum Rs. 1,42,074-2-2 were borne by Government, divided into Rs. 67,980-7-8

for maintaining the Government Agency, and Rs. 74,093-10-6 for supervising the Licensed Agency, and Rs. 12,010-3-6 by the Municipalities. Compared with the expenditure of the preceding year, the cost falling to the share of Government was less by Rs. 13,483-5-4, but that borne by the Municipalities was more by Rs. 856-2-3. Placing, however, the increment against the decrement, there was a diminution in the net cost of Rs. 12,627 3-1. All the circles contributed to the reduced cost, excepting Eastern Bengal, where, on the whole, an additional expenditure of only Rs. 107-6 was incurred. The average cost for each successful operation amounted to two annas eight pie for the Government Agency work, one anna for the Licensed Agency work, and two annas four pie for Municipal operations. In comparison with the results of the preceding year there was a reduction in the cost per case in the two first-named groups of areas of one anna and 11 pie and three pie, respectively, against an increase of one pie in the last named, culminating, however, in a diminution for all three groups of five pie.

141. Under this head the reports show that in all Rs. 710-2 were contributed by private individuals for carrying on vaccinations, distributed as follows: Rs. 281 were paid from the Cantonment Funds of Barrackpur, Cuttack,

Contributions to cost of Vaccination from private sources.

and Dinapur; Rs. 12 by the Zemindar of Chagdighi; Rs. 60 for the Durbhanga Dispensary and Rs. 57-11-6 for the Naraya Dispensary by the Rajah of Durbhanga; Rs. 200 for the Dispensaries of Hatwa, Gopalgunge and Bhoiri by the Rajah of Hatwa; Rs. 17-15-10, 22-15-11, and 27-8-0, for the dispensaries of Jchana-bad, Sursund and Tajpur, respectively, from the Dispensary Funds, and Rs. 30-14-9 by the Northern Bengal State Railway.

142. In *Calcutta* the increase in the average cost of each vaccination was due to the gross expenditure having been spread over a diminished number of operations. In the *Darjiling* Circle the increase in the gross cost of

Explanations accounting for the increase in the Gross and Average Cost of Operations.

the Government agency is traced to a part of the travelling allowances incurred in 1885-86 having been drawn in 1886-87. *Eastern Bengal Circle*.—The increase in gross cost for Licensed vaccinations was due to the entertainment of two Inspectors for Tipperah and Noakhali, and to the salary, with an additional allowance of Rs. 25 per mensem, of the Deputy Superintendent having been debited to the Licensed agency establishment, while in the previous year it was a charge on the Government agency. The same causes and the decrease in the number of vaccinations account for the increase in the average cost of each successful case. *Orissa Circle*.—The increase in gross cost of the Licensed agency was due to the work having commenced in September instead of in October, involving thereby the payment of the working salaries for an additional month, and to five more paid apprentices having been engaged, on the authorized allowance, than last year. *Behar Circle*.—The increase in the gross cost for Licensed vaccinations was due to two additional inspectors having been employed in Shahabad owing to extension of the licensed scheme to certain thanas in that district. No explanation has been furnished as to the cause of the increase in the gross cost of the Licensed agency in the *Ranchi* and *Sonthal Pergunnahs* Circles.

143. During the year under review the Licensed Vaccination system was introduced into the Salipur, Kendrapara, Patamundi, and Aul thanas in the Cuttack district in the *Orissa Circle*; into the Arrah, Belowti, Dumraon, Buxar, Dhangaon and Peroo thanas in Shahabad in the *Behar Circle*; into the Tegra, Gogri, Sheikpurah, Jamui and Chakye thanas in Monghyr in the *Sonthal Pergunnahs Circle*; and into the Noakhali district and into thanas Bhola and Barhanudi in Backergunge in the *Eastern Bengal Circle*. It also appears from the reports that 36 Licensed Vaccinators were allowed to practice in the towns marginally named, and some Municipal Officers advocate the introduction of this agency into their towns. This recommendation cannot be adopted as it is not in accordance with the terms of the Compulsory Vaccination Act.

144. Inoculators and Apprentices were trained in Vaccination in the following Circles. In the *Sonthal Pergunnahs* Circles 65 inoculators of Monghyr, 14 of Bhagulpur and 3 of Sonthal Pergunnahs, and 4 local men were trained, and all these men, excepting two of the Inoculators, passed the required examination. In the *Eastern Bengal Circle* 24 men were trained of whom 18 were inoculators. In the *Behar Circle* 13 inoculators were trained. In the *Orissa Circle* 23 Inoculators were trained, 17 on the sanctioned allowance of Rs. 4 each per mensem, and the remainder without any allowance.

145. Each Licensed Vaccinator in the Metropolitan Circle has been made to deposit Rs. 10 as security for good conduct, in a Post Office Savings Bank and to lodge his pass-book in the Superintendent's Office. But Dr. Gupta suggests that to check misconduct and malpractices on the part of these Vaccinators effectually, the deposit money should be made to reach Rs. 100 by annual additions of Rs. 10. A similar scheme was introduced into the *Eastern Bengal Circle*, and it is said that it works satisfactorily, as the men have become more careful in the performance of their duties.

146. The Superintendent of Vaccination, *Eastern Bengal Circle*, reports that unlicensed men practise largely in his circle, thus interfering seriously with the Licensed Vaccinators obtaining their livelihood. These unauthorized operators consist generally of Government or Licensed Vaccinators who have been dismissed for misconduct. They give out that they are Government men, and thus impose on the credulity of the people. Legislative interference is indicated.

Particulars regarding Licensed system of Vaccination.

Extension of the system.

	Number.		Number.
Culna	1	Muktagachi	1
Jehanabad	1	Kishoregunge	1
Faridpur	1	Brahmanberia	3
Madaripur	1	Behar	2
Goalundo	1	Nowada	5
Jhalakati	1	Jamui	1
Perozepur	1	Dumka	1
Rajitpur	1	Rajmehal	1
Sherpur in Mymensing	1	Cuttack (ex-inoculators)...	12

147. Much difficulty was experienced by the Licensed Vaccinators in realizing their fees in the *Darjiling, Eastern Bengal, Behar and Orissa* Circles, in parts of the Metropolitan Circles and in the Faridpur Municipality. In Behar two men of Bankipur had to give up practising for this reason, and the same was the case with the Faridpur vaccinator. In Orissa, were it not for the help given by the Civil Authorities and the Police, a large portion of the fees would never have been realized; but in some places the Police declined to render this assistance, and here the Vaccinators had to forego their fees. Some Superintendents and Deputy Superintendents took a great deal of trouble regarding this matter.

148. It was reported that in the plains portion of the *Darjiling* Circle Licensed Vaccinators are believed to take more fees than that authorized by the rules. To check this imposition the Deputy Superintendent of the Circle suggests that the Panchayets be directed to collect the fees for the Vaccinators and to pay them, taking their receipts, as they do with respect to the salaries of the chowkidars. This procedure would also meet the general complaint of non-payment of fees.

149. On reports made, Government prohibited Rajahs and Zemindars in the *Ranchi* Circle exacting from Vaccinators one-fourth of their fees as their zemindary commission. It was found that this year the Rajahs of Seraikela and Jakur complied with this order; but that Babu Gunga Ram Sing of Jela, and Babu Puddo Narain, a minor Political Chief of Seraikela, levied the exaction.

150. On my representation that the rules for licensing Vaccinators, sanctioned in Bengal Government letters Nos. 3317T and 2155T, dated, respectively, 14th October 1875 and 1st September 1876, had become obsolete in some respects, and did not accord with the present administration of vaccination in the Province, the Government, in orders No. 2288T-M, dated the 23rd October 1886, sanctioned the following revised Rules submitted by me for approval. These Rules have been circulated all over the Vaccination Circles in English, and in the vernacular according to the requirements of each.

Rules for Licensing Vaccinators.—1. No person shall be recognized as an authorised vaccinator who is not in possession of a license signed by a Deputy Sanitary Commissioner and Superintendent of Vaccination, and countersigned by the Magistrate.

2. No person shall be furnished with a license to practise vaccination who has not undergone systematic training for three months. Such training must be obtained from a Deputy Sanitary Commissioner and Superintendent of Vaccination; and before granting such license, the Deputy Sanitary Commissioner and Superintendent of Vaccination is expected to satisfy himself that the candidate understands all about vaccination, and is practically acquainted with all that appertains to the art of vaccinating.

3. A license may be granted, in special cases, to any person found competent after oral and practical examination by a Deputy Sanitary Commissioner and Superintendent of Vaccination.

4. Licensed vaccinators should, if possible, be men of good caste and character, not too old, and able to read and write.

5. The grant of a license entails on its possessor the following duties:—

- (a) Submitting to supervision.
- (b) Restricting his operations to a certain (assigned) area.
- (c) Submitting returns of his work to a Deputy Sanitary Commissioner and Superintendent of Vaccination.
- (d) Proceeding to stamp out small-pox when required to do so.

6. It confers the following privileges:—

- (a) Permission to work within a certain (assigned) area under license.
- (b) Permission to charge for such work at the rate of two annas for each successful case.
- (c) Participation in the rewards granted by Government for successful work.

7. Every licensed vaccinator will be assigned a definite area of country, which he is expected to maintain fully vaccinated. In allotting such area, the following points should be taken into consideration:—

- (a) The man's own desire.
- (b) Whether he is known to, and likely to be favourably received by, the people.
- (c) His ability to maintain the area thoroughly vaccinated.

8. A licensed vaccinator is liable to be deprived of his license:—

- (a) When his work is insufficient or bad.
- (b) When he refuses to submit his work to supervision.
- (c) When he refuses or omits to submit returns.
- (d) When he gets too old or otherwise incapacitated for work.
- (e) When he overcharges or otherwise misconducts himself.

9. When a man is deprived of his license, another licensed vaccinator should be appointed to his district.

10. Licensed vaccinators shall be furnished with instruments, stationery, and blank forms free of cost.

11. When called on to "stamp out" outbreaks of small-pox beyond the limits of their areas, licensed vaccinators will be entitled to a deputation allowance not exceeding four annas a day.

12. Inspectors of licensed vaccinators shall be appointed in every district where licensed vaccinators are employed.

13. The duties of Inspectors are as follows:—

- (a) To assist vaccinators in establishing and maintaining a good vesicle.
- (b) To see that they work exhaustively and properly.
- (c) To check their registers and returns by comparison with the cases.
- (d) To direct operations undertaken for the purpose of stamping out small-pox.
- (e) To receive or prepare, check, tabulate and forward to their superior officers the monthly and other returns required from Licensed vaccinators.
- (f) To submit such reports on the work of their districts as may be required from them.

14. Inspectors of Licensed vaccinators shall be under the orders of the Deputy Sanitary Commissioner and Superintendent of Vaccination.

15. Arm-to-arm vaccination shall be practised as a means of transmitting lymph in preference to all other methods.

16. The duty of training inoculators as vaccinators will rest with Deputy Sanitary Commissioners and Superintendents of Vaccination. Whenever possible, ex-inoculators will be attached to Vaccination Circles as apprentices, to whom such allowances will be made as may be sanctioned by Government from time to time, in preference to men seeking permanent Government employment. If at the end of the working season these men are found incapable of efficiently carrying on vaccination, they will be discharged, and not again employed.

Chief Opponents to Vaccination.

151. During the year under notice, the most prominent opposers of vaccination were:—

In the Darjiling Circle.—The Zemindar of village Jagdah in thana Rani-sunkoil in Dinajpur, and the Brahmins and Ferazis of the plains portion of the circle. In the *Banchi Circle*, the Brahmins, Rajputs, Marwaris, and Boniahs in Hazaribagh and Lohardugga, the Mahomedans and up-country Brahmins in Manbhum, and the Kols in Singbhum. In the *Sonthal Pergunnahs Circle*, the Marwaris, Goedars, Moghyas, Rajputs, and Ghatwals of Deoghur and Jamtara, the Kherwas among the Sonthals in the Sonthal Pergunnahs and Bhagulpore districts and in the Jamui Sub-division of Monghyr, Raja Chunder Sikhur Mookerjee of village Moolata, thana Dumka, and Baboo Moktesh Chunder Bhattacharji of village Searkotary, thana Jamtara. The people in these villages cannot be persuaded to submit to vaccination, until the Raja and the Baboo, who are leaders, accept it. They were reported to the Sub-divisional Officers. In the *Eastern Bengal Circle*, Baboo Barada Kanta Roy, Zemindar of

Kalshakati in thana Backergunge. He threatened the vaccinators that if they performed vaccination in his zemindari, they would be killed, and directed his men not to afford them lodging. Some of his men assaulted the vaccinators, and six prosecutions for assault had to be instituted. Baboo Umesh Chunder Ghose, Sub-Inspector of Police in thana Surupkati, took steps to discourage vaccination. Also village Mahomedans—Ferazis—in Faridpore. The Magistrate and District Superintendent of Police of Backergunge, to whom I am very grateful, did their best to overcome objections, and among the means employed was an important one which to some extent quieted conscientious scruples, viz., securing Futwas announcing the lawfulness of the measure from several influential Moulvis of the district. In the *Behar Circle*, the Babbans and Rajputs, all the police officers, excepting the head-constable of the Chunari outpost, and the zemindars and punchayets generally. Some of the vaccinators were assaulted in the sub-divisions of Bhabuah and Sasseram. In the *Orissa Circle*.—The villagers in village Tanghy in the Cuttack thana, some of whom assaulted two vaccinators and forcibly took away their tubes of lymph and broke them. The case was reported to the Magistrate, and the delinquents fined. This step had a beneficial effect, for soon after, the resistance in this and the adjoining thanas was less. *Municipal area*.—The people in the Sarsund town in Mozufferpore raised such a clamour against vaccination that operations had to be stopped under the orders of the Sub-divisional Officer from the 14th January. The introduction of the Compulsory Vaccination Act is strongly indicated here as well as in the other towns. In *Hazipur*, *Lalgunge* and *Sitamarhi*—in the same district—much opposition to vaccination was exhibited. The Civil Surgeon of Puri is of opinion that no amount of persuasion (which he has tried without success) will induce the people in the Puri town, including the intelligent and educated classes, to accept vaccination, and that the only remedy is the Compulsory Vaccination Act. In the *Balasore* town vaccination is said to be received in a half-hearted manner. The people have to be begged, coaxed and humoured for the purpose. In the *Old Muldah* town, Huri Guri of Balia, in Nababgunge, assaulted the vaccinator who went to his house to vaccinate his children with the consent of his wife. Legal proceedings were instituted against him, and the case was pending. In the towns generally opposition is prominently offered by Marwaris, Ferazis, low and high class Mahomedans, the Koyas, up-country Hindustanis, Rajputs, Kajis, Beniahs, Hulwais, high caste and orthodox Hindus. With regard to the objection of Hindus to be operated on by Mahomedan vaccinators in some places, it should be mentioned, for general information, that it appears that there can be no religious restrictions in connection with it, for in the Bhagulpore Municipality a similar objection having been raised, Baboo Hurry Mohun Thacoor, a very high caste Brahmin, allowed his family and dependents to be vaccinated by a Mahomedan.

152. It is very gratifying to record that much of the usual opposition, active or passive, reported from year to year with its causes, have been overcome and is dying away in rural circles, under the persistency of the Vaccination Department in pointing out the benefits of vaccination and the evils of inoculation, by arguments, persuasion, &c. In the *Metropolitan Circles* the Ferazis in Murshidabad, Birbhum, Jessore and Khulna, who hitherto strenuously opposed the measure, are giving in, and the Ecchha families have come round. Mr. Oldham, the Magistrate of *Burdwan*, in the same circle, reports that so far from there being any opposition to vaccination, the people every where in the district appeared to be most eager for it, and Mr. Tayler, the Magistrate of *Bankura*, says that all opposition to vaccination has died out in the district, and it is now freely accepted. In the *Darjiling Circle* the measure is favourably received by all classes in the hill portion, and this statement is supplemented by the Deputy Commissioner's report that vaccination is fairly popular throughout the Darjiling district. In the *Ranchi Circle* the Kols and Mahomedans of Hazaribagh and Lohardugga appreciate vaccination. The people in Manbhum and Singbhum are being reconciled to the measure, and comparatively less difficulty in carrying out operations this year was felt in the latter district, no religious grounds being now advanced as drawbacks. No difficulty is experienced in the Political Estates, except that the taking of lymph from the arms of children is strongly objected to; and the aboriginies and low caste Hindus, generally,

Present Attitude towards Vaccination in the Vaccination Circles.

seldom resist. The report from the *Sonthal Pergunnahs Circle* is that generally vaccination was received with less reluctance than during the preceding year; that the great difficulty experienced in Monghyr was overcome this year; that the Marwaris, Goedars, Moghyas, Babhans, Rajputs, Ghatwals and the Kherwas above referred to as still objecting to vaccination, did so in a lesser degree, and that the other castes, both Hindu and Mahomedan, appreciate vaccination. In the *Eastern Bengal Circle* the strong prejudices against vaccination hitherto manifested have to a great extent been overcome, so much so that "vast numbers of Ferazis" of Backergunge, the most persevering opponents on religious grounds, accepted vaccination. It is said that this sect, who formerly objected to vaccination, because their religion prohibited it, now say that their religious books direct that vaccination may be taken when it is performed by cow lymph, but not if human "p/p," or lymph, is used. Moreover, the Assistant Surgeon of Backergunge states that in the beginning of the year several applications were received from the interior of his district, asking for vaccinators. In the *Behar Circle* it was noted that there was an improvement in the attitude of the Bhabans and Rajpoots, the staunchest opposers; that opposition was less when the old inoculators known to the people were engaged to vaccinate them; and that the poorer classes only object because they have to pay fees. The Superintendent of the *Orissa Circle* reports that, although the adverse feeling towards vaccination yet exists, it has been overcome to some extent; that in many places in the areas where vaccination has spread, people offered their children for vaccination, specially where small-pox had broken out; and that, as a rule, vaccination is appreciated by the Native Christians, Mahomedans and low caste Hindus. It is, however, stated that it is well nigh impossible to break down the barriers of custom handed down to the people from their forefathers.

153. In this area the objections to vaccination have, to a very great

Attitude towards Vaccination in the Municipal area.

Tamluk.	South Suburban (excepting few Ferazis).
Ramjibanpore.	Joynuggur.
Ghatal.	Bariepore.
Khirpoy.	Balli.
Hughli.	Bhuddressur.
Seraumpore.	Culina.
Utterpara.	Cutwa.
Kotrung.	Nobodowipa.
Jalpaiguri.	Debhatta.
Barri.	Kotchandpore.
Behar.	Sherpore in Bogra.
Mozufferpore.	Brahmenberia.
Monghyr.	Rajmehal.
Jamalpore.	Colgong.
Dumka.	Khanacool.
English Bazar.	Jungipore.
Purulia.	

Kandi.

extent, been overcome by the stricter enforcement of the Compulsory Vaccination Act. The report indicate that in the towns named in the margin, no objection whatever was made to vaccination, and that instances were not wanting in many of them in which the people exhibited an eagerness for the prophylactic, applied for it, and preferred it to other protective measures. In *Calcutta* vaccination is readily received, as is evidenced by the large percentages of home and station vaccinations—28·77 and 69·07 to total vaccinations respectively.

It is only the up-country people, who, as usual, resist the measure, and although the higher classes of this community still resort to various devices to evade it, it is gratifying to find that the lower classes are gradually yielding to the pressure of the law on the subject. In *City Murshidabad* signs of increasing appreciation of the value of vaccination were exhibited; the prejudices of a few bigotted Mahomedans are fast subsiding; and the example shown by the most respectable and influential class of Mahomedans in accepting vaccination induced others to follow it. A marked change for the better was observed this year among all classes in the *Jajpore* town, and the major portion of the people in the town of *Cuttack* have recognised the benefits of vaccination. In several towns the resident population are all quite reconciled to vaccination and seek for it, but outsiders, who come in for trade or other purposes, bring with them the prejudices of their native country. In others, people are slow and apathetic and unwilling to vaccinate their children before they are one year old; but in other respects no objection is manifested. In some towns again, although the people generally understand the benefits of vaccination and its superiority to inoculation, there is much indifference to the measure which precludes them from voluntarily seeking for it. If brought to them they accept it without objection.

154. It is a pleasing duty to record the following prominent instances of assistance accorded to the cause of vaccination by officials and non-officials and by private gentlemen and zemindars.

Aid rendered in promoting Vaccination.

In the *Metropolitan Circles* material assistance was rendered by Mr. Fiddian, the Magistrate, and Colonel Hume, the District Superintendent of Police of Birbhum; by Mr. Anderson, Magistrate of Murshidabad; by Mr. Cornish, Magistrate of Midnapore; by Mr. Coxhead, Magistrate of Burdwan; by Mr. Tayler, Magistrate of Bankura; and by Mr. Clay, Magistrate of Khulna; by the Joint Magistrate of Ranigunge, Babu Uma Churn Gangooly; by Deputy Magistrates Babus Narendra Nath Chowdhuri of Bagirhat, Nundo Proshad Sen of Narail, Komud Nath Mookerjee of Ghattal, Bijoy Madhub Mookerjee of Jungipore, Pran Kissen Das of Lallbagh, and Moulvie Abdul Kadir of Contai; by the Inspector of Police, Babu Gouri Proshad of Bankura, and by several Sub-Inspectors and Head-Constables. Of the Rajahs of Matiarah, who are generally opposed to vaccination, the following members rendered assistance, viz: Baboos Gopal Chundra Mundle and Prannath Mundle. Aid was also given by the Moonshi Zemindar of Taki, in thana Hosseinabad; by Fakeer or Gazee Sahib of Harwa; by the Agent of the late Prannath Roy Chowdhuri of Harwa, and by the Zemindar of Patanda in Panskurah. In the *Ranchi Circle* by the Deputy Commissioners of Hazaribagh, Lohardugga, Singhbhum and Manbhum; by the Sub-divisional officers of Palamow and Giridi; by the Munsiff of Lohardugga; by Police officers generally; by the zemindars of Chittrarpur in thana Ramgurih, and of Sreenuggar in thana Cheinpur. The Deputy Commissioner of Singhbhum sent perwannahs to the Rajah of Seraikela, who exhibited a disinclination to encourage vaccination, expostulating with him on the subject, and addressed the Thakoor of Pera, who was inclined to prove obstructive, requesting him to render every assistance in his power. The Deputy Commissioner of Lohardugga wrote to the Brahman zemindar of certain villages in thana Daltongunge, requesting him to desist from opposing vaccination. In the *Sonthal Pergunnahs Circle*, the District Superintendent of Police, Monghyr, the Sub-divisional Officer of Beguserai, and the Sub-Inspector of Police, Surajgurah, evinced real interest in vaccination. The two former officers assisted in having all the villages in their jurisdictions vaccinated, and the last-named officer introduced the measure in his thana. Zemindars Bhidanarayan Chowdury of Annurary and Sibsahai Singh of Madcanara in thana Monghyr induced the Moghya Babhans in their villages to be vaccinated. The Sub-divisional Officer of Pakour, Mr. E. McL. Smith, took great interest in making vaccination popular in his sub-division. In the *Eastern Bengal Circle* Mr. Fasson, the Magistrate, and Mr. Wilcox, the District Superintendent of Police, Backergunge; Babu Soshi Shekher Dutta, late Sub divisional Officer, Perozepore, and Babu Upendra Chandra Majumdar, the present Sub-divisional Officer, afforded cordial assistance. During their tours they advised the people to accept vaccination, and directed the subordinate police to render help in the matter, when called upon to do so. Even the zemindar of Khalshakali, a hostile opposer of vaccination, was induced so far as to issue perwannahs before the Superintendent to his ryots to accept vaccination. Babu Prasunna Chandra Mookerjee, Sub-Inspector of thana Backergunge, took great interest in the matter. It is hopeful to find chowkidars helping the cause of vaccination. In some villages in this circle they gave shelter to the vaccinators when they could not get it elsewhere, and had their own children vaccinated first, as an inducement to others to accept the measure. In the *Behar Circle* the Sub-divisional Officers of Bhabuah and Sasseram afforded commendable aid.

155. This Enactment was introduced during this year into the

Extension of the Compulsory Vaccination Act V (B.C.) of 1886 and other particulars relating to the Amendment and Working of this Law.

Dinajpur.
Natore.
Serajgunge in Pubna.
Kurseong.

Jalpaiguri.
Jajpur.
Purulia.

Kendrapara.
Balasore.
Puri.

towns named in the margin. It was also brought into operation into 19 other towns immediately after the close of this year, viz., on the 1st of April.

Shortly after the close of the year, Act II (B.C.) of 1887 amending the above law was passed. The amendments consisted in provisions having been made (1) for vaccinating unprotected children within 15 days from date of serving notices; (2) for inspection, after vaccination, of children in eight days or earlier; (3) for empowering the Health Officer of the Port of Calcutta to cause persons on board of vessels (certain vessels excepted) arriving in Port with small-pox to be forthwith vaccinated; and (4) for ensuring access to vaccinating officers into houses, vessels, or other places in Calcutta,

its Suburbs and Howrah, for the purpose of ascertaining whether the inmates are protected or not.

The first of the abovenamed Enactments was more or less satisfactorily worked in many towns, particularly the Sudder ones; but defects in its administration were observed in the great majority, particularly in the minor towns, prominent for mal-administration being those hereinafter mentioned. Nevertheless, in very many towns the introduction of the law has greatly assisted in removing objections to vaccination, and in some, although its machinery is not worked, the simple fact of its existence in them, it is believed, makes the people yield to vaccination. In several towns again, where the law has been long in force, its utilization from year to year has brought to notice large numbers of unprotected subjects, to detect whose presence the searching powers of the vaccinating and supervising officers would have been otherwise exercised in vain. In the towns in which the law is in force—113 in number—93,066 vaccinations were performed against 95,635 during the preceding year, showing a decrease of 2,569 operations which chiefly occurred in the towns where the working of the Law is faulty. In the *South Barrackpore* town vaccine depôts were not opened, fees for house vaccinators were not levied, and notices not issued. In the *Bariepore* town the law had not yet reached six or eight Ferazi families. In the *Kushlea* and *Basirhat* towns no vaccine depôts have been opened, notices were insufficiently served, no prosecutions for evasions were instituted, and home vaccinations were performed free of charge. In the *Darjiling* town the law cannot, it is said, be fully utilized for want of a proper agency. In the *Rungpore* town the law, though introduced in 1880, is not yet properly worked, because the people are perfectly indifferent to vaccination, and refuse to attend the vaccine stations, these being the very reasons why the law should be enforced. In the *Chattrra* town also the law is not properly enforced. In the *North Barrackpore*, *South Dum-Dum*, *Naihatti* and *Baraset* towns, the suggestion of the Deputy Superintendent of Vaccination, Metropolitan Circles, to open out vaccine depôts was not complied with, the Commissioners of the North Barrackpore Municipality being of opinion that the depôt system would reduce the number of vaccinations, as many of the people dislike to resort to vaccine depôts; and it appears, moreover, that the vaccinators also entertain the same objection. In the *Sherpur* town in Bogra, although the law was introduced in January, no vaccinator was appointed to carry on vaccinations. In the *English Bazar* town the provisions of the Act are a dead-

Dainhat.
Cutwa.
Kumarkhalli.
Ranaghat.
Meherpore.
Santipore.
Taki.
Mezufferpore.
Fuhna.
Bogra.

North Dum-Dum.
Ranjibnampore.
Chundrakona.
Khirpoy.
Sonamukhi.
Jalpaiguri.
Barrackpore Cantonment.
Bishenpore.

vaccinator. In the towns named in the margin either one or more of the following requirements of the law were not given effect to:—Vaccine depôts were either absent, insufficient, or not resorted to; home vaccinations were carried out without fees; notices were not served; no prosecutions were instituted; and vaccinations

were carried on for very short periods. In the following Municipalities the law is not at all, or very nominally, administered, viz., Baduria, North Barrackpore, Debhatta, Dum-Dum Cantonment, Jungipore, Kishnaghur, Comilla, and Brahmanberia. The reason assigned in Jungipore for this omission is that no occasion arose to exercise the provisions of the law, and in the three last named towns that its more existence in them has a great power for good. It is gratifying to record that in the *Bhagulpore* Municipality houses to serve the purposes vaccine depôts were given rent free by influential native gentlemen. The Joint Magistrate of *Kurseong* advocates the introduction of this law into his Sub-division. He does not believe that there can be any serious objection to its application to all cooly lines in the numerous tea plantations, if vaccinators can be found to undertake the work. The Assistant Surgeon of *Bankura* also strongly advocates (and the Magistrate supports his recommendation) the introduction of this law into the district for the effectual prevention of small-pox. For a similar reason, Dr. Bose, the Medical Officer of the Northern Bengal State Railway, urges its introduction into the stations on the Railway lines, but the Act must be recast

for rural areas as in the Sudder thanas of the Bhagulpore district to which it has been introduced it cannot be worked.

156. Vaccination was offered to the Mahomedan pilgrims in two vessels on their return from Mecca with small-pox in their midst, but they declined to accept it. The provisions of the amended Act, referred to in a preceding paragraph, will, however, meet such refusals in future.

157. Act IV. (B.C.) of 1865 prohibiting the practice of inoculation was introduced during this year into the Barisal, Nulchiti, Jhalakati, Gournadi, Mehendigunge, Backergunge and Sarupkati thanas in the Backergunge district; and into thanas Kendrapara, Aul, Salipur, and Patamondai in Cuttack. The places to which the Law has not yet been extended are named in the margin. Excepting the places enumerated below, inoculation is not practised any where.

In the *Eastern Bengal Circle*, in Chittagong, and the thanas in Backergunge in which the above-mentioned law is not in operation, inoculation is encouraged by the

Chittagong district.	IN BACKERGUNGE.	Thana Bowphal.
Mozufferpore "		" Perozepore.
Durbhanga "		" Bhaduria.
Balasore "		" Barahanuddi.
Puri "		" Golschipa.
Sarun "		" Gulsakhali.
Gya, excepting Jehanabad thana.	IN CUTTACK.	" Mathberia.
Chumparun district.		" Cuttack.
		" Tirtol.
		" Jagatsingapore.
		" Banka.

well-to-do people *Sonthal Pergunnah Circle*.—In the Monghyr district, although the prohibitory law is in force, people prefer inoculation to vaccination. Fifteen cases of infractions of the law were detected and reported to the Magistrate. *Behar Circle*.—Inoculation is rarely practised in Patna; to some extent in some parts of Shahabad, and extensively in Mozufferpore, Durbhanga, Sarun, Gya, and Chumparun. *Orissa Circle*.—Here it is freely practised in all places to which the prohibitory law has not been extended, and clandestinely in places where it is in operation. It was found in this circle that outbreaks of small-pox could not be arrested in some places owing to inoculation being practised while vaccination was being carried on for the purpose, and that several deaths were caused by inoculation. Fourteen cases of infractions of the prohibitory law were detected in the Sub-division of Jajpur, where that law is in force. Prosecution and punishment followed.

158. In paragraph 61 of this Report it has been shown that small-pox prevailed in 1886 with unprecedented mildness, and I attributed this, to a great extent, to the steady and extended progress which vaccination has made within recent years. I cannot submit better evidence in support of this view of the subject than the figures presented in the marginal table showing the death-rates from small-pox during the quinquennium 1882-83 to 1886-87 in the areas which were under vaccination to a more or less extent, and in those which were not under vaccination. I regret that complete data are not available to enable me to carry the examination further back than the year 1882-83. These figures conclusively indicate that the mortality from small-pox in the areas under vaccination declined steadily and sensibly as protection by vaccination was being gradually extended; but that it was higher and fitful in the areas not under vaccination, although their numbers were being reduced year by year.

	NUMBER OF AREAS WHICH WERE UNDER VACCINATION IN—					DEATH-RATE FROM SMALL-POX PER MILE OF POPULATION IN—				
	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
Areas under Vaccination ..	309	490	463	472	489	13	12	15	06	02
Areas not under Vaccination	180	149	116	107	91	20	25	55	20	16

quinquennium 1882-83 to 1886-87 in the areas which were under vaccination to a more or less extent, and in those which were not under vaccination. I regret that complete data are not available to enable me to carry the examination further back than the year 1882-83. These figures conclusively indicate that the mortality from small-pox in the areas under vaccination declined steadily and sensibly as protection by vaccination was being gradually extended; but that it was higher and fitful in the areas not under vaccination, although their numbers were being reduced year by year.

159. This information was called for during the year by Mr. Risley, the Officer appointed by Government to make ethnographical enquiries in Bengal. It was supplied to him, but as it is important and practically useful, I have re-produced it here.

Castes of, and other particulars relating to Vaccinators and Inoculators in Bengal.

CASTES OF THE BENGAL Vaccinators.—In the subjoined table are shown the castes of the vaccinators employed in Bengal, under the heads of Hindus, Mahomedans, Christians, and other races :—

CASTES.	NUMBER OF VACCINATORS OF EACH CASTE EMPLOYED IN THE—							CASTES.	NUMBER OF VACCINATORS OF EACH CASTE EMPLOYED IN THE—						
	Metropolitan Circles.	Darjiling Circle.	Ranchi Circle.	Sonthal Pergunnahs Circle.	Eastern Bengal Circle.	Orissa Circle.	Behar Circle.		Metropolitan Circles.	Darjiling Circle.	Ranchi Circle.	Sonthal Pergunnahs Circle.	Eastern Bengal Circle.	Orissa Circle.	Behar Circle.
BRAHMINS.								OTHER HINDU CASTES—continued.							
Rarhi Sreni ...	95	3	56	30	31	5	...	220	Sudgope ...	5	...	3	...	...	8
Burno ...	3	...	...	...	11	...	...	14	Pode ...	1	...	...	...	...	1
Barendra ...	1	...	...	...	3	...	...	4	Gowala ...	1	1	...	3	...	64
Madhya Sreni ...	16	...	...	...	...	...	...	16	Moduk ...	...	...	...	...	10	1
Utkal ...	5	...	...	...	...	14	...	19	Sutradhar ...	...	1	...	...	...	1
Bashista or Baidik ...	1	...	...	3	1	...	...	4	Kahar ...	...	...	...	...	...	4
Suckuldipi ...	...	...	10	...	...	...	...	10	Suri ...	...	...	...	...	...	1
Kanogia ...	...	...	5	...	...	...	...	5	Parita ...	...	...	...	...	...	2
Surwaria ...	...	...	...	...	...	...	4	4	Purso ...	...	...	...	...	...	1
Kankuly ...	...	...	...	...	...	...	1	1	Telegu ...	...	...	...	...	...	4
Gaur ...	...	...	...	...	...	...	1	1	Maharatta ...	...	...	...	...	...	2
Acharjee ...	67	...	...	32	32	...	2	133	Sudra ...	...	...	...	...	...	7
Vat ...	3	...	...	1	...	...	...	5	Bania ...	...	...	...	...	...	2
Babhun ...	...	...	...	...	...	...	3	3	Koiry ...	...	...	...	...	...	1
OTHER HINDU CASTES.								MOHAMEDANS...							
Kaistha ...	95	5	53	55	137	20	13	378	CHRISTIANS ...	...	...	3	...	2	5
Baidya ...	4	...	...	3	7	...	...	14	OTHER RACES.						
Khetri ...	1	...	8	...	6	...	...	15	Sinduria ...	...	...	22	2	...	24
Rajput ...	2	...	...	...	...	...	7	9	Uraons ...	...	...	3	...	...	3
Baishnub ...	5	5	...	7	...	...	...	17	Dosadh ...	...	...	...	1	...	1
Jogi ...	19	...	...	...	6	...	...	25	Paharchia ...	...	...	6	...	...	6
Barber ...	21	...	...	6	14	...	1	42	Khandael ...	...	...	...	...	2	2
Chasadhoba ...	1	...	...	...	2	...	...	3	Majee ...	...	...	...	15	...	15
Chundal ...	11	...	...	...	9	...	...	20	Kanoo ...	...	...	...	...	...	3
Tewar ...	3	3	...	1	...	...	...	7	Dhenook ...	...	...	...	...	...	5
Kurmokar ...	1	...	...	...	...	...	...	1	Momir ...	...	...	...	...	...	2
Tanti (weaver) ...	6	...	...	21	...	...	2	20	Jodhpati ...	...	...	...	...	...	8
Jolia ...	2	...	...	...	1	...	...	3	Masadar ...	...	...	...	...	...	1
Kaiburtta ...	4	13	...	...	1	...	...	19	Gotpam ...	...	...	...	...	...	1
Malakar (Mali) ...	3	...	7	51	4	...	51	116							
Kumar (Potter) ...	24	...	...	...	...	...	...	24							
Teli ...	4	...	...	...	1	...	...	5							
Harooi ...	1	1	...	...	1	...	...	3							

CASTES OF PEOPLE IN BENGAL WHO PRACTICE INOCULATION.—*In the Metropolitan Circles.*—Madhya Sreni Brahmin, Utkal Sreni Brahmin, Kaistha, Chasadhoba, Barber, Jugi, Chundal, Tewar, Tanti (weaver), Acharjee, Kaiburtta, Chhuttri, Rajput, Kumar, Teli, Barooi, Sudgope, Vat. *In the Darjiling Circle*—Brahmin, Mahomedan, Kaistha, Rajbungshi, Kaiburtta, Dass, Malakar, Barber, Potter, Nomosudra, Kurmokar, Harhi, Ramat Baishnub. *In the Ranchi Circle.*—Brahmin and Sinduria. *In the Sonthal Pergunnahs Circle.*—Brahmin (Rarhi), Kaistha (Utter Rarhi), Baishnub, Ganak, Brahmin, Dosadh, Mali, Gotpam, Tatwa, Sinduria, Gope, Dhanook, Momir, Jodhpati, Hajam, Kanoo, Tewar and Masadar. *In the Eastern Bengal Circle.*—Brahmins (Rarhi, Barendra, Burno and Acharjee), Kaistha, Napit, (Barber), Jogi, Chundal, Malakar Purso, Dass, Barooi, Gope. *In the Orissa Circle.*—Utkal Brahmin. *In the Behar Circle.*—Mali, Acharjee, Kaistha, Tutwan and Gowala.

RELIGIOUS CEREMONIES OBSERVED AT THE TIME OF INOCULATION AND VACCINATION.—*Darjiling Circle.*—Prior to inoculating, the old inoculators used to give previous notice in two or three villages at a time, fixing a certain auspicious day on which the unprotected children were to be brought to a certain place where the goddess *Shitala* was worshipped. When the people assembled, offerings of milk, fruits and other things were made to the goddess, and then the operations took place. On the 21st day after the operation the children were again collected on the side of some river or tank, and similar ceremonies having been gone through they were bathed. People did not think that small-pox was a disease, but "taking it by the name of the goddess *Mata Bhowani* worshipped it." This practice still lingers among some illiterate and ignorant persons. In some, but few, places some religious ceremonies are at present performed after vaccination by the Brahmin of the family, the vaccinators having nothing to do with them. *Ranchi Circle.*—The people in general in the districts of Manbhum and Singbhum object to take vaccination from any other castes

than Brahmin, and those in Hazaribagh from Mahomedans. The following religious ceremonies which used to be observed at the time of inoculation, are still practised during vaccination by people who regard vaccination, like inoculation, as a religious rite; but the practice, which was universal when vaccination was newly introduced, has died away in the greater part of the districts in this circle with the spread of vaccination, excepting in Kashipur, Barabazar, Manbazar, and Echagurh in Manbhum and Seraikela, Khar-sowan, &c., in Singbhum. The ceremonies observed are:—The people do not shave their beards or crop their hair, nor have their clothes washed. They avoid anointing their bodies with oil, and abstain from fish or flesh as a part of their meals, and never use turmeric in their curries. It must be mentioned that in 1885, when small-pox broke out in Kashipur, the seat of the Raja of Pachet, an earthen pot filled with water called the *rakshyabari* was worshipped. This ceremony was established by the Raja to protect his town from further attacks of the disease. The Brahmins who performed pujas to the goddess “*Shitala*” for a period of three weeks distributed what are called *rakshyakabojies* to the people who wore them round their necks and arms, and thought themselves proof against any attack of small-pox. *Rakshyakaboj* is a small hollow round copper vessel containing a flower, or a portion of it, with which the goddess “*Shitala*” is worshipped. Similar ceremonies are also observed in the Political estates and in many places in the Hazaribagh and Lohardugga districts.—*Sonthal Pergunnahs Circle*.—Here a pot used to be filled with water when a child was inoculated, and this pot of water worshipped for about a fortnight. This custom is also observed at present. When a child is to be vaccinated, the lancet is washed with a little water out of this pot before operating and afterwards, in respectable families, this pot of water is worshipped as “*Mata*—” goddess of small-pox—for about a fortnight. Amongst the lower castes the water of the pot is thrown away soon after the operation, but some families throw it away after five days. *Behar Circle*.—In this circle on the day of operation the child is made to take his seat on a clean and well-leaped place called *chooka*, and within that *chooka* the child is operated on. From the time of operation the inoculators sing prayers every morning and evening. On the 5th or 6th day they generally administer oil mixed with water to the operated child; but the popular belief is that small-pox scales dissolved in water is given, and this is called by the people “*ghouty*.” From that day till the 14th or 15th day all the members of the family abstain from taking oil, fish, meat, and haldi, and clothes are not given to the washermen, nor alms to beggars. On the 14th or 15th day oil is touched to the body of the operated child, and the regular *puja* to the goddess *Mata* or *Shitala* takes place; but sometimes the *puja* takes place on a later date. The zemindars and other influential men still observe these ceremonies in connection with vaccination. *Orissa Circle*.—The inoculators while performing operations upon a person pronounce some secret *muntras*, which are heard and understood by them only. Inoculation is generally followed by small-pox, which is regarded as a goddess, and is called by the name of “*Shitala Takurany*.” The person inoculated is made to lie down in a separate room, and the inoculator keeps an earthen pitcher of water near his head, with a mango tree twig dipped in it, and a cocoanut placed over its mouth. This pitcher is kept there for seven days as the representative of the goddess *Shitala*. During these seven days the inoculator reads slokas or verses of praise in the name of “*Shitala*.” These verses are 90 in number, but eight of them are the most important, hence the ceremony is, after these eight verses, called “*Shitalaslaka*.” These verses or *slokas* are divided into three parts. The first part consists of the praises of “*Shitala*” and the various miracles wrought by her since the creation of the world; the second shows how she is the author of small-pox; and the third consists of prayers for averting her wrath, and requests her to go away after accepting the offering presented to her. The patient after the ceremony of these seven days is over, makes some offerings to the goddess, and then the ceremony ends.

SECTION VIII.

SANITARY WORKS (MILITARY).

160. The Sanitary Commissioner for Bengal is not required to furnish information under this head.

SECTION IX.

SANITARY WORKS (CIVIL).

Total Income of the Municipalities, and the Objects to which it was applied in 1886.

161. The information marginally indicated is presented below, collated from the returns of 137 Municipalities:—

DISTRICTS.	Number of Municipalities.	Income in 1886, including balance from the last year.	PERCENTAGE OF INCOME EXPENDED ON—						DISTRICTS.	Number of Municipalities.	Income in 1886, including balance from the last year.	PERCENTAGE OF INCOME EXPENDED ON—					
			Sanitary Works.		Roads.	Sanitary Works, including Roads.	Police.	Other Requirements.				Sanitary Works.		Roads.	Sanitary Works, including Roads.	Police.	Other Requirements.
			1886.	1885.								1886.	1885.				
		Rs. A. P.									Rs. A. P.						
Burdwan ...	6	1,27,318 0 0	43'24	53'40	15'75	59'00	...	22'02	Tipperah ...	2	31,082 0 0	39'17	51'65	20'39	59'56	...	27'22
Bankura ...	3	27,501 6 11	25'75	27'88	6'84	32'60	...	25'90	Patna ...	3	1,39,608 4 1	30'23	47'91	28'40	67'61	...	13'40
Birbhum ...	1	7,507 7 2	42'80	54'41	3'98	16'88	...	6'03	Gya ...	3	81,035 9 2	46'32	47'23	9'10	55'51	...	26'05
Midnapore ...	6	56,214 6 2	54'00	51'20	15'30	09'30	...	16'90	Shahabad ...	6	58,193 0 0	45'83	43'17	16'55	63'85	...	18'07
Hughli including Serampore ...	8	1,68,840 2 1	31'11	33'00	22'78	53'89	...	23'59	Mozufferpore ...	4	44,410 10 8	26'67	23'12	20'50	47'18	...	30'05
Howrah ...	2	3,07,689 11 1	31'09	37'62	18'50	49'66	8'57	17'83	Durbhanga ...	3	51,152 1 9	34'57	38'26	18'60	53'17	...	20'19
24-Pergunnahs ...	16	7,30,801 0 0	33'55	38'87	21'47	58'03	6'09	19'54	Sarun ...	2	67,164 4 10	31'31	40'81	6'04	37'36	...	28'01
Nuddea ...	9	85,242 0 0	35'93	28'01	27'43	03'37	...	15'01	Chumpanun ...	2	21,670 9 0	47'14	40'71	11'75	58'49	...	20'97
Jessore ...	3	20,720 14 3	38'71	52'09	14'55	53'28	...	13'10	Monohyr ...	3	63,577 0 0	44'08	18'67	15'44	61'48	...	14'17
Murshidabad ...	4	89,141 11 6	42'50	43'62	12'42	55'33	...	14'86	Bhagnipore ...	2	50,455 2 3	38'28	38'29	23'32	61'61	...	15'10
Khulna ...	4	16,416 14 5	17'91	25'87	35'85	63'76	...	17'02	Purneah ...	1	20,446 2 4	33'09	19'08	23'79	54'83	...	14'49
Dinajpur ...	1	25,500 5 11	47'06	44'58	26'82	74'49	...	4'72	Maldah ...	2	13,271 0 2	30'89	37'11	22'41	62'31	...	10'41
Rajshahye ...	2	37,576 8 4	42'41	32'72	18'12	60'54	...	10'49	Sonthal Pergunnahs ...	2	17,440 7 8	51'35	40'02	11'17	62'42	...	8'04
Rangpore ...	1	19,366 6 6	39'35	37'50	4'47	43'83	...	15'86	Cuttack ...	3	49,956 13 9	34'67	34'45	11'09	45'66	...	22'50
Bogra ...	2	15,766 0 0	20'56	25'39	14'79	41'36	...	25'36	Puri ...	1	45,724 0 0	40'07	38'95	8'37	45'45	...	16'99
Pabna ...	2	28,059 14 11	46'45	32'47	16'81	63'74	...	20'66	Balasore ...	1	13,272 5 4	35'14	32'79	21'14	56'33	...	13'23
Darjiling ...	2	1,46,533 8 11	46'61	51'96	8'95	55'59	...	12'31	Hazaribagh ...	2	15,882 9 10	54'37	50'19	8'57	61'94	...	10'69
Jalpaiguri ...	1	9,535 13 1	43'49	30'40	1'42	44'92	...	5'53	Lohardugga ...	1	11,872 5 7	41'63	41'66	9'98	51'01	...	26'75
Dacca ...	2	1,86,576 0 10	53'54	63'62	12'77	71'32	...	8'19	Singbhum ...	1	5,465 8 10	52'90	16'06	7'72	60'62	...	15'40
Faridpore ...	3	21,616 4 4	39'26	42'38	12'84	51'10	...	22'21	Manbhum ...	1	10,442 11 3	51'09	59'49	7'33	58'43	...	11'03
Backergunge ...	4	31,997 12 5	61'73	47'59	9'52	61'26	...	10'64									
Mymensing ...	6	47,277 4 0	36'85	23'58	23'97	60'82	...	15'36									
Chittagong ...	2	35,587 0 0	30'27	28'08	28'90	69'18	...	34'80									
Noakhali ...	1	6,258 10 10	42'27	23'37	9'80	62'08	...	1'91	GRAND TOTAL ...	137	30,84,571 11 9	38'65	40'28	17'97	56'62	1'70	18'18

The above table shows that, in comparison with the preceding year, there was an increase in the total income which accrued to the Municipalities to the extent of Rs. 43,348, and that in its distribution larger amounts were allotted for roads and police, and smaller for sanitary works (original and recurring) and "other municipal requirements—" the increment being represented by 1·38 and ·09 per cent. of income, and the decrement by 1·63 and 1·81 per cent. respectively. It is thus seen that, although there was an increase of income, the apportionment for maintaining the sanitary status of the towns was, on the whole, curtailed. In estimating the returns of the towns individually, it is found that 44 against 35 in 1885, expended appreciable proportions of their respective resources, viz., 40 to 69·70 per cent., in improving their condition generally; while 24 against 15, allotted very insignificant proportions—3·74 to 19·40 per cent.—for the same purpose. The rest of the towns, numbering 69 against 83,

diverted in the similar direction proportions of income ranging between 20·07 and 39·66. I will comment on this expenditure in a subsequent paragraph of this section.

162. The various purposes to which the amount apportioned for the sanitation of the towns—Rs. 11,92,389 (exclusive of Rs. 5,54,539, the cost of constructing and maintaining roads) against Rs. 12,25,264 in 1885—was devoted, and the exact amounts which were expended for each of such purposes, are shown in the marginal table, in contrast with the similar expenditure of the preceding year. The comparison indicates an increase under the heads of Establishment, Drainage,

HEADS OF EXPENDITURE.	Total Expenditure.		Difference in 1886.	
	In 1886. Rs.	In 1885. Rs.	Increase. Rs.	Decrease. Rs.
On Conservancy, including Latrines Establishment ...	3,60,591	3,80,714	.....	20,123
.. Drainage	3,41,433	2,91,828	49,605	.....
.. Water-supply	75,269	52,803	22,466	.....
.. Disposal of Dead	81,237	1,57,806	.....	76,569
.. Markets and Slaughter-houses	6,620	7,544	.....	924
.. Vaccination	7,489	24,451	.....	16,962
.. Treatment of the Sick	14,965	15,417	.....	452
.. Other Sanitary Works	1,59,804	2,04,078	.....	44,274
Total	1,04,075	2,77,503	17,422	.....
On construction, maintenance and repair of Roads	11,02,389	12,25,264	.....	32,875
Total, including Roads	5,54,539	5,04,811	49,728	.....
	17,46,928	17,30,075	16,853	.....

and "Other sanitary works," prominently Establishment, against a decrease under all the other heads, specially Water-supply. The pressure which I had brought to bear, during my inspection of towns, on the inadequacy of the establishments entertained in many of them for conservancy purposes, and on the advisability of having private privies cleaned by municipal mehters under the provisions of Part IX of the Bengal Municipal Act, led to the establish-

Bhagulpore.	Soori.
Monghyr.	Midnapore.
English Bazar.	Patna.
Gya.	Dacca.
Motihari.	Comillah.
Barisal.	Jalpaiguri.
Kishnaghur.	Pubna.
Arrah.	

ment of many towns being strengthened, most so of those named in the margin, in the last six of which the increase is mainly attributable to the house-service scheme having been introduced into them. Hence the increase under the head of "Establishment." The enhanced expenditure on "Drainage" is due mainly to larger sums having

been expended on drainage works in this as opposed to the preceding year in towns in the following districts:—24-Pergunnahs (Rs. 14,010, against Rs. 9,158), Darjiling (Rs. 9,833, against Rs. 4,461), Dacca (Rs. 8,241, against Rs. 4,149), Murshidabad (Rs. 6,190, against Rs. 4,811), Nuddea (Rs. 3,345, against Rs. 2,427), Rungpore (Rs. 2,121, against Rs. 425), Purneah (Rs. 2,108, against Rs. 457), Midnapore (Rs. 1,946, against Rs. 299), and Maldah (Rs. 1,654, against Rs. 646). The large diminution under head "Water-supply" is traceable to considerably larger expenditure having been incurred in 1885 than during this year in towns in the districts of 24-Pergunnahs (Rs. 63,156 in 1885, as opposed to Rs. 336 in 1886), Burdwan (Rs. 40,068, against Rs. 26,777), Howrah (Rs. 6,043, against Rs. 3,950), Midnapore (Rs. 2,659, against Rs. 321), Faridpore (Rs. 2,575, against Rs. 175), and Jessore and Murshidabad (Rs. 1,706 and 1,203 respectively, against nothing). The reduction in cost for "Conservancy, including latrines" is seen in the Dacca town, the returns of which show an expenditure of Rs. 69,265 in 1885 against, most curiously, nothing during the year under report. I, however, suspect that some portion of this amount has been entered under the head of "Conservancy Establishment," which shows an expenditure of Rs. 58,418 in 1886, against only Rs. 4,226 in 1885. Almost the whole decrease of expenditure under the head of "Markets and Slaughter-houses" occurred in the Darjiling Municipality, where Rs. 16,532 were expended in 1885, against Rs. 285 this year, the greater portion of which was laid out in improving the covered market in that Municipality. The reduction under the head of "Treatment of the Sick" is clearly traceable to the larger allotment which had to be made in 1885 for this purpose in most towns, in connection with the heavy inundation of that year.

163. The statistics above furnished, and the observations made thereon,

• Expenditure on Original Sanitary Works.

refer to the *gross* expenditure incurred for sanitary purposes, including recurring charges incidental to every year. I now solicit attention to the statement published as Appendix No. IV to this Report, showing the percentages of income expended by all the towns in Bengal separately for carrying out *Original Sanitary Works*. Against these percentages will be found

entered, for purposes of comparison, the proportions of income spent

	Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.		Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.
Kendrapara	44.68	6.72	32.19	North Barrackpore	24.47	40.36	26.25
Sherpur	41.12	17.03	23.97	Nattote	23.65	25.09	40.24
Bodiyabatti	29.88	37.42	23.61	Puri	25.25	48.38	23.75
Kumarkhali	27.55	30.51	21.00	Bazitpore	22.63	49.15	24.04
Naraingunge	27.15	20.47	31.74	Pubna	23.13	38.86	35.04
Shahabgunge	20.78	46.03	16.76	Muktasatcha	21.87	8.43	36.10
Kishoregunge	25.76	22.19	46.48	Burdwan	21.12	43.96	29.04

income for original Sanitary Works calculated to secure permanent benefit to them, and that of them

	Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.		Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.
English Bazar	9.79	55.02	32.18	Bhagulpore	2.39	62.41	26.08
Dinajpur	8.99	65.49	10.70	Suburbs of Calcutta	2.32	52.22	36.07
Hughli	8.21	55.77	31.15	City Murshidabad	2.09	48.51	11.38
Rangpore	7.71	36.12	25.39	Nuddea	1.84	49.14	35.78
Darjiling	7.30	50.48	27.00	Midnapore	1.81	80.30	17.43
Durbhanga	6.75	42.79	31.63	Berhampore	1.40	58.51	21.23
Faridpore	6.02	42.23	30.59	Hazratnagar	1.17	60.50	22.80
Faridpore	4.60	43.30	28.01	Sudharam	1.11	50.06	16.74
Monohyr	4.40	57.07	29.55	Purulia	.87	58.09	26.09
Comillah	4.12	50.09	38.01	Burial	.73	60.84	12.25
Gya	3.99	55.15	39.19	Suri	.65	46.23	15.09
Chupra	3.34	35.22	27.55	Kishnaghur	.65	72.28	19.22
Cuttack	3.03	43.30	34.78	Arrah	.28	81.02	14.66
Motihari	2.88	46.23	40.88	Patna	.24	70.00	26.50
Mozufferpore	2.65	43.63	50.78				
Balsore	2.42	53.91	26.67				

less than 31 towns expended nothing on original Sanitary Works, among them

	Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.		Percentage of Income on original Sanitary Works.	Percentage of Income on recurring Sanitary requirements.	Percentage of Income on all Municipal requirements.
Howrah	50.08	24.34	Jalpaiguri	.....	44.93	17.43
Jessore	68.61	18.43	Dacca	.....	78.05	13.68
Rampore Beaulah	66.93	24.51	Chittakong	.....	60.71	38.42
Bogra	38.00	51.83	Ranchi	.....	51.91	34.13

towns acted similarly with regard to municipal expenditure direct.

164. A few out of the many instances of misdirected expenditure to which the anomalies above exposed are traceable, and

Misdirected Expenditure.

Commissioners often take in advancing the sanitary welfare of the towns committed to their charge, may be quoted; as a great deal of money is thus laid out, particularly on Education, Lighting and Road-watering, which could be more beneficially employed in correcting the many grave sanitary defects which exist in the towns which indulge in such expenditure. Government interference in this matter is strongly indicated. In *Meherpore* Rs. 560 were spent on education out of an income of Rs. 3,384. The very defective drainage of *Berhampore* cannot, it is said, be improved for want of funds, yet large amounts are expended yearly on lighting, watering roads and education. The *Kandi* town cannot be provided with a water-supply and public latrines for want of funds, yet money is spent on road-watering and education. In the *Jhalokati* town, while nothing was spent on vaccination, treatment of sick, and water-supply, and only Rs. 12-8 on drainage and Rs. 5-13 on disposal of the dead, so much as Rs. 510 was diverted towards lighting the town. In the *English Bazar* town want of funds is pleaded against the suggestion to provide a night-soil trenching ground, while a large expenditure was incurred for education and a considerable balance kept in hand. In the *Gya* town excessively large amounts were expended on lighting, road-watering, and education, and the funds of the Lodging-houses were diverted to expenditure on roads. In the *Durbhanga* town the roads are watered to the detriment of other more important sanitary needs. In the *Chupra* town a municipal

market is proposed to be constructed, and Rs. 5,000 have been budgetted for providing increased accommodation in the dispensary, while a system of drainage is a crying want in it. In the *Puri* town 100 lamps are lit at a very heavy expenditure which might have been diverted to other more useful purposes. The Calcutta Corporation offered to put up hydrants for Rs. 2,400 in the *South Barrackpore* town, and to supply it with water for Rs. 890 annually; but the Commissioners rejected this important proposal, and spent Rs. 1,978 on education, and set aside Rs. 4,000 for an office. They also pay for naming roads and for sign-boards, while they have no sweepers. The Nawab of Dacca made over to Mr. Lyall, the Commissioner, Rs. 5,000 for the use of the town of *Comillah*, but this amount was permitted, at the request of the Municipal Commissioners, to be wasted on such a secondary requirement as street lamps. In the *Suburbs of Calcutta* proper drainage is admittedly a great want, but only Rs. 7,739 were spent for its improvement, while lighting and watering roads cost more than Rs. 53,000. In the *Baduria* town the expenditure on municipal establishment was nearly ten times as much as that for conservancy establishment. The Commissioners of the *Busirhat* town, although strongly urged by the Sanitary Department to stop the practice of burying the dead inside premises, by providing a burial-ground, would not introduce this very necessary reform, but spent Rs. 1,500 on schools, and also maintain lights in the streets. In the *South Dum-Dum* town, while night-soil is not removed from the privies, Rs. 521 were spent on schools and Rs. 300 on road-watering. Dr. Gupta recommended the provision of a burial-ground for Mahomedans in the *North Dum-Dum* Municipality, but the Commissioners pleaded poverty, and yet they spent Rs. 684 in keeping up schools, granted Rs. 600 to repair them, and kept in hand a large unexpended balance. They do not support patshalas, but schools apparently suited for the education of the higher classes. In the *Baranagore* town, while not a single pice was spent on its drainage which is defective, Rs. 1,700 were expended on schools and Rs. 1,207 in litigation. The poor and important towns of *Hajepore* and *Lalgunge*, the former of which constructed a latrine by voluntary subscription, were able to spend money on lighting. The small towns of *Tikari* and *Roserah* expended Rs. 468 and 852 respectively on education, and of *Purneah* Rs. 940 on lighting roads.

165. Notwithstanding the misdirection of the funds in the manner above set forth, the original sanitary works which were executed during the year, as disclosed in the subjoined summary, taken from Appendix III to this Report, hold no unimportant position in having materially promoted the sanitation of the localities where they were undertaken. The figures in the number columns of these statements are short of the actual numbers, as in many cases the local officers omitted to note the numbers of the drains, roads, tanks, wells, &c., which were constructed. Moreover, several sanitary works, mentioned in the Appendix above alluded to, do not appear in these abstracts owing to their cost not having been returned. The last of these abstracts show the contributions to the cause of sanitation by private individuals. These works should not be considered as possessing small value; for although they were primarily conceived in a religious spirit, and are infinitesimal as compared with the great needs of the Province at large, they no doubt promote the health and well-being of a large number of people who are affected by them:—

IN THE TOWNS.

(Carried out from Municipal funds, and in a few cases from Road Cess funds.)

No	Nature of works.	Amount.	No.	Nature of works	Amount.
		Rs.			Rs.
<i>Drainage.</i>			<i>Water-supply.</i>		
4	Drainage schemes ...	11,434		Filtered water-supply schemes ...	22,079
45	Pucca new drains constructed ...	11,608	6	Tanks excavated ...	4,403
25	Kutcha ditto ditto ...	1,018	6	Do. re-excavated ...	2,447
8	Drains improved ...	8,330	45	Wells sunk ...	4,641
3	Embankments constructed ...	821	64	Ghâts and bridges to tanks constructed	4,144
168	Culverts provided ...	9,086	7	Water reservoirs provided ...	168
Total		42,297	Total		37,882

No.	Nature of works.	Amount. Rs.	No.	Nature of works.	Amount. Rs.
Roads.			Markets and Slaughter-houses.		
79	Roads and lanes constructed ...	22,123	3	Markets constructed ...	1,741
119	Ditto new metalled ...	40,231	3	Slaughter-houses constructed ..	1,108
	Total ...	62,354		Total ...	2,849
Conservancy.			Medical relief.		
64	Latrines (masonry, iron, kutcha, and portable) constructed ...	10,880	3	Charitable dispensaries and 1 asylum for paupers, &c. ...	2,513
25	Urinals put up ...	545	4	Hospital for pilgrims, the destitute and the aged ...	369
2	Cess-pools filled up ...	7,389		Total ...	2,882
7	Conservancy buildings ...	3,071		Miscellaneous.	
23	Ditto plant ...	1,914		On Arboriculture ...	313
	Total ...	23,799		One Public Garden for recreation ...	200
Disposal of Dead.				Total ...	513
5	Burial-grounds provided ...	938		GRAND TOTAL ...	1,74,335
1	Burning ghât provided ...	821			
	Total ...	1,759			

IN THE DISTRICTS.

(Carried out from Road Cess funds, and in some cases from Government funds.)

No.	Nature of works.	Amount. Rs.	No.	Nature of works.	Amount. Rs.
Drainage schemes.			Roads.		
Number not specified.	Drainage schemes ...	42,057	77	Roads constructed ...	73,053
	Pucca drains constructed ...	202	2	Roads new metalled ...	10,720
	Kutcha do. do. ...	1,000	10	Bridges constructed ...	18,458
	Embankments constructed ...	15,518		Total ...	1,02,231
	Culverts provided ...	5,996		Markets.	
	Total ...	64,773		Markets ...	70
Water-supply.			Conservancy.		
7	Tanks excavated ...	14,945		Land reclaimed... ...	742
*54	Wells sunk ...	95	Miscellaneous.		
1	Water reservoir constructed ...	300		On Arboriculture ...	2,837
20	Khals excavated ...	5,905		GRAND TOTAL ...	1,91,898
	Total ...	21,245			

* The cost of constructing 52 of these wells has not been furnished.

PRIVATE CHARITIES.

No.	Nature of works.	Amount. Rs.	No.	Nature of works.	Amount. Rs.
Drainage.			Roads.		
	Drainage works ...	728	10	Roads constructed ...	2,508
4	Embankments ...	2,049	2	Do. new metalled ...	5,800
	Total ...	2,777		Bridges constructed ...	200
Water-supply				Total ...	8,508
164	Tanks excavated ...	1,17,346	Markets.		
3	Do. re-excavated ...	4,700		2 Markets constructed ...	260
2	Ghâts and bridges provided to tanks ...	1,600		GRAND TOTAL ...	1,42,202
33	Wells sunk ...	6,711			
1	Reservoirs constructed ...	300			
	Total ...	1,30,657			

166. The following may be considered the most important of the Original Sanitary Works, mentioned in Appendix III to this Report, which are calculated to benefit the cause of sanitation materially. To these are added such similar works as were in course of construction, having been commenced in previous years, and those which were initiated during the year under report.

Water-supply.—In *Darjiling* town the water-works scheme was extended to Annandale location, to the meat-shed in the bazar, and to Goompahar bazar, and was

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being extended to the Hindu cremation ground. I should here note that the water-supply question in this town is not so much one of deficient supply from the springs, as of too small a main from Senchal to Darjiling. Except during the very driest season, the supply from springs is ample. On the 1st May 1886, one spring filled the main completely, all other springs running to waste. Arrangements were in progress for extending the water-works to the dāk bungalow at *Kurseong*. A water-supply scheme has been brought into use in the *Jamulpore* town, in Mongliyr, by the East Indian Railway Company. It consists in embanking a small valley in the neighbouring hills and conducting the water in pipes into the station. It is estimated to cost Rs. 64,807. The water-works scheme in the *Bhagulpore* town was being carried out, and is expected to be completed during 1887. A brief account of this scheme may not be out of place here. The want of good drinking-water having been long felt owing to the mouth of the Jamooneah river, which runs just below the town, remaining in a silted-up condition during a great part of the year, whereby its water is rendered stagnant and unfit for use, it was determined to provide the town with filtered water from the river Ganges. A scheme was therefore devised by which it was arranged to establish the head-works at Barari, where the main stream of the Ganges flows; to have the water filtered in tanks; and to convey it thence through pipes for distribution to the whole town. The laying of the main pipes was in progress, and branch pipes are to be connected to them, but how far the wants of the people will be met through the distributaries is a question dependent on the Municipality succeeding in raising a loan. The estimated cost of the measure amounts to Rs. 2,67,353. The greater portion of this sum has been raised by local subscription. The Barwari Rajah has, with praiseworthy liberality, given a lakh, and Government has accorded a grant-in-aid of Rs. 50,000, and also the gratuitous services of its officers for carrying out the works. These water-works, though incomplete, were formally opened by Sir Rivers Thompson during the current year. I believe they will prove highly beneficial to the health of the townspeople, as the water-supply from wells, as well as from the Jumooneah, is undoubtedly bad. The scheme for supplying the *Puri* town with good drinking water by sinking wells, constructing settling tanks, and leading the water through iron pipes, referred to in paragraph 236, page 96 of my Annual Report for 1885, has been submitted to Government for approval and sanction, after an experimental well had been dug at a cost of Rs. 1,322 from the District Road fund, and the water thus obtained had been found to be abundant and pure. The cost of the entire project is estimated at Rs. 1,75,000, and it is proposed to raise this money by subscriptions, or by reviving an old tax on pilgrims. It is urgently necessary that some better water supply than the existing one should be provided for this town, where pilgrims assemble in large numbers; and now that the matter is in the hands of Government, it is to be hoped that it will be speedily brought to a conclusion. The unsightly malarious swamp to the east of the jail in the *Hazaribagh* town was converted into a lake by prison labor. It is anticipated that the undertaking will exercise a favourable influence on the health of the residents. The water of the Ichamutti river, in the town of *Pubna*, was protected by means of embankments and bridges. The consideration of the long pending question of a filtered water-supply for the town of *Howrah* has been so far proceeded with as to foreshadow a hope of ultimate success. A survey and map of the portions of the town where the pipes will be laid is being progressed with, and the several questions connected with the engineering difficulties to be overcome, the quantity of water to be supplied, the cost of the work, &c., are being considered. The water-supply scheme for the *Riparian towns* in Hughli and Howrah, alluded to in former reports, has not come to a final issue yet. The Serampore Municipal Commissioners decline even to contribute towards the cost of the preliminary survey and of the preparation of plans and estimates for the proposed scheme, owing to having to pay for more pressing wants; but Baidyabatti, a smaller and more insignificant town, contributed Rs. 115; and, moreover, in Utterpara, although on the river, a few families obtain water from Calcutta, which affords a sufficient proof of how much filtered water is prized. It appears, however, that the Government has (in January of the current year) again pressed the subject on the attention of the Commissioners of Serampore, and that they are re-considering it. The

question of extending the *Dacca* water-works to the whole town, which has been under contemplation for the past five years, is likely to be brought to an issue at last. Plans and estimates of the work have been prepared, and their details are being considered by the Commissioners.

Rupees 6,751 were advanced to landholders and superior tenants for excavating new and cleaning and deepening old and silted up tanks in the *Burdwan* district. An

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important improvement was effected in the *Jessore* district by the removal from several parts of the river Bhyrub of the fishermen's bandals which used to obstruct its current and defile its water. The abatement of the nuisance has improved the water-supply. No less than 52 wells were sunk in the *Rajshahye* district. In the *Sonthal Pergunnahs* district a large embankment was drawn across a valley at Sharipara, on the Dumka-Ramporehat road, to store water and improve the gradient of the road. Several such smaller bunds were also made. With reference to the water supply question of the *principal stations of the Eastern Bengal State Railway*, allusion to which was made in paragraph 237 of my Annual Report for 1885, it appears from the report of the Manager of the Railway that new pucca wells have been sunk at Kanchrapara, Kissen-gunj and Ramnagar; that an experimental well was being sunk at Aranghatta; that the tank at the Kanchrapara workshop has been deepened and brought into use; that the tank at Chuadanga was partly deepened, but that further progress was stayed by the rains; and that the filters in use at the stations have been rendered sufficient. With advertence to the suggestions made by me (*vide* page 33 of my Annual Report for 1885) relating to the precautionary measures required for preventing the outbreak and spread of epidemic disease among opium cultivators in places where they assemble for the weighing of opium, the Government of India sanctioned a grant of Rs. 2,000 for the improvement of the water-supply in the places in question in *Behar*, and also authorized the construction of one or more substantial sheds near every weighing station for the accommodation of the cultivators during the time of weighing.

Drainage.—The drainage scheme for the *Dinajpur* town, some time under contemplation, has been sanctioned by Government and is to be commenced shortly. The entire cost,

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amounting to Rs. 26,265, will be met, with praiseworthy liberality, by the Maharajah of Dinajpur. The drainage channels of the *Berhampore* town in Murshidabad, which pass eastwards to the Gobra nullah, were cleaned out at the expense of the Road Cess funds—a use to which such funds might be more extensively put with advantage. The *Nurddea* Municipality, aided by Rani Surnomoi, of Cossimbazar, and Rani Tara Sundari Devi, of Bhukoilas, improved the embankment which keeps the town from being flooded by the river. Saucer-shaped drains were provided in the northern portion of the Mahigunge bazar in the *Rungpore* town. The drainage of this town is very defective, and is seriously deteriorating by obstructions, interruptions, encroachments, interference with levels, want of or disrepair of culverts and drains, obstructions to outlets, non-drainage of the bed of the dead Ghagat and stagnation thereof in parts, &c. Moreover, the northern drain of the Dinajpur or sudder road ends in a series of deep excavations; the jail road drains have been badly cut by the Road Cess Department and require levelling; and the channel constructed under the suggestion of Dr. Ghose, joining the Ichamutti river at Mahigunge and the main drainage channel opposite Dalpoti, and draining the Nachine and Kachua hills, has been so encroached upon and obstructed as to defeat the objects of the scheme. The Commissioners have a survey in hand for remedying some of the defects, and have purchased a large supply of Ranigunge pipes for use and for sale, at cost price, to householders for insertion in the paths leading from the road to their houses, but a thorough reform is strongly and urgently indicated. The drainage of the town of *Darjiling* was further improved. A cess-pool, west of the Eastern Bengal Railway office in the *Naraingunge* town in the *Dacca* district, was filled up by the Municipality. The cost, amounting to Rs. 7,318, was paid by the owners of the cess-pool. Saucer-shaped drains were provided for parts of the *Bettiah* town in Chumparun. The important drainage canal in the *Purneah* town, referred to in paragraph 238 of my Annual

Report for 1885, which was commenced in 1884, was completed this year. The object of the work is to drain off the stagnant water from the town through a drain 12 feet wide constructed from the station towards Lalgunge, the branch drains from several parts of the town being connected with it. During the past rainy season the scheme worked satisfactorily. In the *Balasore* town the drainage works were being proceeded with by the construction of pucca drains along seven roads. These works were commenced at a high point in the town, and are steadily being progressed with towards the outfall. The levels for the *Mozufferpore* drainage scheme, referred to in paragraph 238 of my Annual Report for 1885, were continued to be taken. Provision has been made in the budget for the completion of the outfall drain along the new chowk road in the *Patna* town, and for making it pucca to the south of the Railway. Arrangements have been made for making a survey and for taking levels of the towns of *Bali* in *Howrah* and *Chanduria* in *Khulna* with a view to carry out complete drainage schemes in them. With reference to the *Dur-bhanga* drainage scheme, the Civil Surgeon is of opinion that the money spent on it is simply thrown away. The levels are all wrong, the drains have no fall any way, and are a "succession of modified elongated pools." A proper drainage scheme for the town, based upon an accurate survey, is necessary.

In the *Midnapore* district the Surpai drainage scheme, referred to in my previous Reports, was being proceeded with, the cost of this year amounting to Rs. 42,057. The main object of this scheme, so far as sanitation is concerned, is to prevent the silting up of the Surpai khal flowing from Contai to the Rosulpur river, which had been going on for years, and thus to restore the drainage of the country in the neighbourhood of Contai in *Hidjilli*, and to render the khal a navigable channel. The excavation of the canal from Jajpur to Akhuapada, in the *Cuttack* district, which was commenced in 1885, was still progressing.

Conservancy.—In the *Howrah* town it has been decided to remove in a steam tramway all the night-soil and sewage matter from its southern portion for burial outside of municipal limits. A loan of Rs. 50,000 for the purpose is to be raised, and the scheme is to be extended to the north of the town, as funds become available. Seventy well-privies were filled up in the *Kishnaghur* town in *Nuddea*. In the *Hazaribagh*, *Chattra*, *Shahabad* and *Gya* towns, the sale of refuse, which is otherwise thrown away, was commenced. In the two first-named towns it is taken for manuring purposes, and in the two last-named it is purchased by brick-burners. In the *Gya* town in addition, night-soil is sold to contractors. These examples might be imitated with advantage in other towns. In the *Dacca* town the "gors," referred to in my former Reports, were continued to be filled up; but this is merely a convenient way of getting rid of street-sweepings. The necessity for a food Inspector in the *Puri* town being greatly felt, and the Municipality being unable to pay an officer of this class such pay as would make him independent, the Puri Lodging House Committee proposed to assist the Municipality in the matter, provided the Inspector also undertook the appointment of Assistant to the Health Officer for the inspection of lodging-houses, inasmuch as an Assistant Inspector of lodging-houses was necessary owing to the Health Officer being unable to visit all the lodging-houses, over 800 in number, as frequently as was desirable, particularly during festivals. It was therefore decided to appoint an Assistant Surgeon on Rs. 100 per mensem, to which the Municipality agreed to contribute Rs. 30.

Bustis.—It is much to be regretted that owing to litigation and the consequent loss sustained by the Commissioners, the improvement of the bustis in the *Howrah* town cannot be proceeded with, so that those which had been marked out for improvement two years ago remain untouched. Busti improvement has also been stopped in the Suburbs of *Calcutta*, *pro tem*, pending its amalgamation with the *Calcutta Municipality*.

Medical Relief.—A new hospital for pilgrims was under construction in the *Gya Municipality*, at an estimated cost of Rs. 10,989-8-3. Baboo Akhoy Gobind Chowdry defrayed the cost for constructing a cholera hospital in the *Pubna* town, which will contain three rooms and a hall. The building has already been commenced, and when completed will supply a long-felt want. The Grish Chunder Hospital in the town of *Kandi* in *Marshidabad*

was approaching completion. Arrangements are being made in the *Bhagulpore* town for the erection of an asylum capable of accommodating 10 paupers and destitute aged persons. This is the first institution of the kind I have heard of in the mofussil.

Public Comfort.—Steps are being taken to provide a square or place of public resort for the people in the town of *Bali* in Howrah in the compounds of the Municipal Office and of the Rivers Thompson School lying contiguous to each other, and situated on the bank of the river and in the centre of the town. This is considered an excellent site, and will also form a play-ground for the boys of the school. Land in the vicinity is also to be acquired at an estimated cost of Rs. 7,500. The Government has consented to contribute Rs. 5,000 for the project.

Burial-grounds.—Land was provided in the *Chittagong* district for burial-grounds for *villages*—a measure which should be generally adopted to obviate one great evil, at least, of village life.

Arboriculture.—Trees were planted on the roads in the towns of *Durjiling* and *Kishnaghur* and in the districts of *Gya*, *Sarun*, *Sonthal Pergunnahs* and *Durjiling* (Terai). A distinguishing feature in *Gya* was that the trees were chiefly fruit-bearing; and the trees in the *Sonthal Pergunnahs* were planted at the cost of Babu Aparava Krishna Mitra.

167. **Port of Calcutta.**—It will be evident from the following notices and observations that very extensive pollution of the river water prevails within the limits of the Port of Calcutta, and that a great deal remains to be done to obviate this evil. The flushing inlet to No. 3 main drain at the jetties has had its gradient altered, in order that the evils brought to notice in my Annual Report for 1885 might be remedied, but the success or otherwise of this alteration remains to be tested when there is a further fall in the river. From the flushing inlet of No. 4 main sewer at Nimtollah ghât, there was not only an excessive emanation of offensive gases, but also an overflow of sewage into the river. The Health Officer has suggested a mode of ventilation, and the Engineer of the Calcutta Corporation proposes to alter the gradient of the sewer. I believe, however, that the only way to get rid of the nuisance from the open ends of these sewers is to have every one of them flushed effectually and regularly by water raised from the river. The question of the drainage of Fort William escaping into the river again attracted attention during the year, and formed the subject of a correspondence between Government and this office. I trust that the Government of India has made, or will soon make arrangements for effectually stopping this nuisance. It was noticed again that the *Howrah Municipality* has for many years drained a large area of their town into the river, including the very offensive contents of the sewer of a large bazar. I have personally gone over the collecting area of the *Howrah sewers* at King's Road, and found that the complaint is a just one. I shall do my best to get the *Howrah Municipality* to mitigate the nuisance; but this will involve some changes in drainage, and is not a matter of easy solution.

168. The latrine in the Port Commissioners' dock at Howrah is faulty in construction, so that the overflow from it escapes into the river. In fact it is considered that all the latrines of the Commissioners on the foreshore of the river are defective in this respect; that none of them are large enough for the numbers who frequent them; and that more of such conveniences are required. The latrine at Watgunge, under the Suburban Municipality, was very offensive. In short, the state of the conservancy throughout Tolly's nullah and the khal running through the ex-King of Oude's premises is extremely defective. The authorities concerned in the matter were communicated with, but the result was almost negative. The Health Officer suggests the adoption of a plan of latrines, which I consider is efficient and suited for the use of the natives, and I would moreover gladly see it largely brought into use in Calcutta, where there is a water-supply through pipes.

169. It appears that the Health Officer was obliged to bring to the notice of the Calcutta Corporation the defective nature of their water boats as modes of conveyance of filtered water to the shipping, and that the Commissioners had set aside his views in the matter on the score of expense. As they seem determined to

wait for some serious catastrophe to accentuate the Health Officer's opinion, it appears to me that some other than the present arrangement is indicated, and that the Port Commissioners should undertake this duty entirely, merely purchasing the water from the Calcutta Corporation.

170. The number of dead bodies and carcasses found floating in the river and dealt with by the Water Police was larger than last year. This is a mode of pollution of the river water which seems capable of much abatement. The exercise of more vigilance on the part of the police of riparian towns on the Hughli river would certainly effect it. Some of these Municipalities keep domes for the purpose of burying bodies found on the river bank, but the enormous number—4,853—of carcasses which reached Calcutta, proves that this mode of disposing of dead animals must be a favourite one along the river.

171. Act III (B.C.) of 1884, the Bengal Municipal Act, was introduced during the year to the Sonamukhi town in Bankura, Jamui in Monghyr, Chagdah in Nuddea, and Netrokona in Mymensing, and various parts or sections of this Enactment bearing on sanitation, particularly

Miscellaneous Sanitary operations
of the year.
Extension of Sanitary Laws.

Part VI, containing special regulations relating to privies, drains, excavations, obstructions and encroachment on roads, to buildings and blocks of huts, to sale of food, drink and drugs, to disposal of the dead, and to offensive and dangerous trades or occupations; Part IX, relating to the construction and cleansing of latrines; and Part X, containing rules for the regulation of markets, were introduced into many Municipalities in which they were not in force before. Byelaws, framed under the same law, were brought into operation in the towns of Madhubun and Shahibgunge.

The places to which the Compulsory Registration Act, IV (B.C.) of 1873, the Compulsory Vaccination Act, V (B.C.) of 1880, and the Act prohibiting the practice of inoculation, IV (B.C.) of 1865, were extended have been mentioned in paragraphs 7, 155 and 157 of this Report. The Bill to amend the Bengal Vaccination Act, V of 1880, alluded to in paragraph 245 of my Annual Report for 1885, was passed as Act II of 1887. The objects of this Enactment have been explained in paragraph 155 of this Report.

The Local Self-Government Act, III (B.C.) of 1885, was introduced during the year into all the districts in the Province excepting the districts in the Chota Nagpore Division, the districts of Darjiling and Sonthal Pergunnals and the Chittagong Hill Tracts. My views regarding the introduction into these districts of sections 87 to 91 of the Enactment relating to Sanitation, and sections 92 to 96 relating to Vaccination, will be found in the next Section of this Report dealing with "Personal Proceedings." The District and Local Boards appointed under the provisions of the Enactment will no doubt effect, in association with this Department, much improvement in village sanitation and vaccination when they shall become charged with these duties.

The Bill relating to village watchmen, referred to in paragraph 245 of my Annual Report for 1885, became law during the year.

A very important law (Act III (B.C.) of 1886) [commonly known as the Ghee Act, as the very general adulteration of ghee gave rise to the necessity of checking the evil legally], prohibiting the sale, under a penalty, of articles of food or drink which are not of the nature, substance or quality demanded by the purchaser, was passed.

Act VI (I.C.) of 1886, providing for the voluntary registration of Births, Deaths and Marriages among persons to whom the provisions of the Indian Succession Act of 1865, of the Indian Christian Marriage Act of 1872, and of the Parsi Marriage and Divorce Act of 1865, apply, and providing for the authentication and custody of registers of the events, so that the entries in those registers shall be admissible as evidence in law courts, was passed during the year. I shall again refer to this Enactment in the next Section of this Report.

The Bill for the amalgamation of certain parts of the Suburban Municipality with the Calcutta Municipality is yet under consideration.

172. From the reports received from the Inspectors of Emigration, Calcutta and Goalundo, which have been separately submitted to Government with my observations thereon, it appeared that there was less sickness and mortality

Sanitary condition of the Calcutta
and Goalundo Emigration Depôts

in the depôts under their supervision than during the preceding year; that, in fact, the health status of the Calcutta depôts had steadily improved, and not a single death, excepting that of an infant born on the premises, occurred in the Goalundo depôts; and that all the arrangements under the heads of accommodation, food, water, medical assistance, vaccination, &c., were satisfactory. Dr. Chundra, Inspector of the Calcutta Depôts, suggested, for reasons furnished in his report, the desirability of placing the depôts for free labourers under the Protector of Emigrants and the Sanitary Commissioner. The special orders of Government were solicited to this proposition, which, however, I did not consider called for the interference of Government for reasons submitted by me.

173. Under the orders of Government, passed at the instance of the Army Sanitary Commission, sanitary information under the heads of "drainage," "water," and "domestic cleaning" relating to each registering circle in the Province, together with the mortality from cholera, small-pox, fever and bowel-complaints in them, are to be published with the Annual Reports of this Department. The object of this measure is very important, viz., that the exact sanitary condition of each tract in the Province may be on record, so that if disease is found to prevail in it persistently or epidemically, its association with particular local insanitary conditions will be seen. The statement containing this information published this year, *vide* Appendix VI to this Report, is not quite complete or full, owing to some misapprehension on the part of the officers of the Vaccination Department, (who were requested to collect the local sanitary estimates of the villages, so that the sanitary status of the registering circles in which they are situated, as a whole, may be arrived at, and be comparable with that of other and neighbouring circles) of what was required from them; and also owing to the impracticability of visiting all the villages in the Province in one year. Nevertheless, it will be seen by a glance at the statement in question that it contains much information on the points above mentioned. In the present state of registration of deaths, however, care must be taken not to accept what is given as correct in the way English statistics are accepted, otherwise sanitary efforts based on them may be very much misdirected and money uselessly spent. Over great areas they give information which may generally indicate their health status, but the more these areas are subdivided, errors are apt to be magnified.

174. Under the same orders, the Civil Surgeons of the large Municipalities were requested to keep up and furnish a table of the daily deaths from cholera and the daily meteorological conditions during the prevalence of the disease in epidemic form in their towns, in consonance with the views of the Army Sanitary Commission that if such records were kept regularly at several of the larger population groups, important information might in time be obtained. I have explained in paragraph 36 of this Report why a full record in this direction could not be submitted this year.

175. A case having occurred in which compensation was claimed for the destruction of the bedding, clothing, &c., belonging to certain individuals who occupied quarters in which a man had died of cholera, the Government of India considered it desirable that, in order to prevent the unnecessary destruction of property and the submission of claims for compensation, some definite rules on the subject should be laid down, and accordingly directed that the following rules, prescribed for adoption among European troops, should in future be carefully observed in dealing with such bedding, clothing, &c. These rules were circulated to the Deputy Sanitary Commissioners for information and guidance:—

Purification of bedding and clothing.—"The straw of the barrack bedding used by persons attacked prior to admission into hospital will be burnt. The stuffing of mattresses and pillows used by cholera patients in hospital will be opened out, exposed to the air, and beaten, and, when practicable, submitted to a dry heat of not less than 250° Fahrenheit for at least an hour (in an oven or otherwise*) before being used again; the remainder of the barrack and

* Or if means are not at hand to enable this to be done, it should be boiled.

hospital bedding, clothing, &c., and such of the clothing worn by patients on their admission as is not liable to injury thereby, shall be boiled, exposed to the air, beaten, and afterwards washed with soap and water.

"Cots and punkah fringes which have been used by cholera patients, or in wards set apart for them, should also be subjected to the action of boiling water when they are no longer required for such cases.

"Such articles of a soldier's kit as cannot be treated in the above manner will be removed to hospital, and there fumigated and exposed to the air and sun for a week, beaten and brushed.

"Burning only to be resorted to when purification cannot be at once carried out.

"When circumstances are such that the above processes of purification cannot be at once carried out, such articles as body linen, bedding, cots and punkah fringes may be burnt, but with proper arrangements the necessity for this destruction will rarely arise."

176. The Officiating Magistrate of *Tipperah* proposes to create a fund of Rs. 16,000 a year by, I think, imposing a tax on marriages, to be expended in providing good drinking water, in the first place, in the thanas in the district which suffer from cholera. This is a very laudable undertaking. The large embankment drawn across a valley at Sharipara in the Dumka-Ramporehat road, in the *Sonthal Pergunnahs*, to store water and to improve the gradient of the road, referred to in a preceding paragraph of this section, was the work of Mr. Forbes, a former Deputy Commissioner. It also appears that special attention was paid to forest conservancy in the Damun-i-koh to promote a continued supply of water and timber by the local residents, particularly Messrs. Smith and Grant, notwithstanding that some trouble is experienced in checking the destruction of timber for want of watchers. Mr. Carstairs, the Deputy Commissioner, who reported the above facts, observes, with reference to them, that "the question of roads is very closely joined to that of water. No doubt, where the country is well timbered, the moisture is retained in the soil and comes out at the foot of the hills in the shape of springs. The want of water is very keenly felt in many places, even for drinking purposes, when the yearly supply is short. Not drainage, but storage is what we have to care for, both artificially by drains and tanks, and naturally by promoting vegetation on hills and slopes." It may not be out of place to mention here that Assistant Surgeon Umesh Chundra Ghose, Deputy Superintendent of Vaccination, 1st Metropolitan Circle, on his visit to the Bussirhat Municipality in the 24-Pergunnahs district during the time when cholera was prevailing there, advised the Municipal Commissioners to arrange for the burying of the cholera vomit and excreta, for burning the soiled clothes, and disinfecting and washing the other clothing of the attacked immediately after death, for using sulphur fumigation, and for the performance of "sankertan" (religious processions with hymns in honour of the god Hori or Krishna) to obviate depression of spirits.

177. The achievement of very satisfactory success in grappling with the many and complicated insanitary conditions which are prevalent in both the towns and districts of Bengal is a question of great difficulty, but that real advance, although small when placed side by side with what is needed, is being steadily made, is beyond question, and I indulge the hope that the foregoing sketch of what has been done for the improvement of sanitation this year will satisfy Government that the subject has received general attention within the bounds of practicability during a single year, bearing in mind that the funds at command for the purpose are altogether incommensurate with the demands made on them.

Conclusion.

SECTION X.

PERSONAL PROCEEDINGS.

Proceedings of the Sanitary Commissioner for Bengal.

Officer in charge of the Office during the year.

178. I was in charge of the Office throughout the year.

179. During this period I inspected the 38 Municipalities indicated in the margin, against 27 during the preceding year, and carefully and exhaustively enquired into their sanitary condition in company, in most cases, with one or more of the local Officers—Chairmen and Commissioners—and attended by the subordinate sanitary staff of the towns to whom careful instructions were given. My observations, with suggestions for the rectification of the defects I found in existence, were forwarded, through the Magistrate, to the Commissioners of each Municipality for such action as was called for. An abstract sketch of the sanitary condition of the towns visited, the defects in them which needed attention, and the action taken on my suggestions, is presented in Appendix V to this Report. An examination of this Appendix will show that while sanitary defects—some of a grave character—obtain, to a more or less extent, in all the towns inspected, those whose condition need be noticed here occupy the position in sanitary estimate assigned to them below. The asterisks placed opposite the names of some of the towns indicate that their condition is extremely bad:—

Towns found in fairly good condition.	Towns found in bad condition.	Towns in which substantial improvements were effected.	Towns in which no improvement, or hardly any improvement, had been effected.	Towns which had retrograded in sanitary status.
Burdwan. Darjiling. Shahabgunge.	Suri. English Bazar.* Old Maldah.* Purneah. Jamalpur. Gya.* Mozufferpore.* Bettiah.* Durbhanga.*	Howrah. Chittagong. Dacca. Comillah. Dinajpur. Bogra. Rangpur. Serampore.	Burdwan. Berhampur. Murshidabad. Shahabgunge. Purneah. Bhagulpore. Jamalpur. Arrah. Chupra.	Motihari. Darjiling. Naraingunge. Jalpaiguri. Rangpur. Pubna. Barisal. Kishnaghur. Midnapore.
			Old Maldah. Bettiah. Chittagong.	Dinajpur. Howrah. Khulna. Serampore.
				Patna. Mozufferpore.

The sanitary administration of the Mozufferpore, Durbhanga, English Bazar, Old Maldah and Monghyr towns was altogether unsatisfactory, and their Commissioners were quite indifferent to their sanitary interests, and in these, excluding Monghyr and including Bettiah, Chittagong and Howrah, the arrangements under many heads of sanitation were bad,—some gravely so. The insanitary conditions obtaining in the Chittagong town have formed the subject of complaint for years. In Comillah intramural interment was found to prevail to a considerable extent. In the same town my suggestions to bury night-soil in shallow trenches and to reserve tanks for drinking purposes alone were negatived—the former because the soil was damp and the rains frequent, and the latter because there were no good tanks available in the localities where reserved tanks were necessary; but the Commissioners have since been induced to reconsider matters. In the Mozufferpore town the night-soil is

never removed from private latrines, or it is done at long intervals, and the Commissioners fail to recognise that such a state of matters is injurious to health or at all objectionable. They also objected to introduce into the town Part IX of the Bengal Municipal Act, relating to the cleansing of latrines, on the ground of hardship to the rate-payers. But the real objection throughout Behar is to have to pay for the removal of night-soil which is quite a new idea. To spend money on such an object is quite beyond the understanding of the average Behar Commissioner, who looks to natural forces to rid him of such matters. In the Monghyr town my recommendation to keep drains always clean was set aside and periodical cleansing adhered to. The Magistrate very properly condemns this action, and thinks that the Commissioners fail to understand their duty in this respect; and, with regard to my suggestion to gradually extend drainage, the same officer remarks that the Commissioners appear "persistently to evade doing what was suggested." Again, my request to extend Part IX of the Act was met by the answer of the Commissioners that the question of withdrawing this law (which had been brought into operation in certain parts of the town on their own recommendation) had been submitted to Government. The Magistrate rightly considers this a very retrograde step, and is of opinion that if any alteration is to be made, it should consist of the extension of the measure to the whole town. He moreover reports that he has drawn attention to great defects in the sanitary administration of this town, but has hitherto been disappointed with the results, though some improvements have certainly been effected. In the English Bazar town the same measure cannot be brought into operation, because, it is said, several inconveniences are likely to accrue, and that it is difficult to secure the services of an adequate number of mehters. The Bhagulpore Commissioners negatived the suggestion to have the clothes, pillows, &c., of the dead burned along with the corpse, on the ground that the Hindus have religious objections to this process. If the objection is to burn along with the body, they could have arranged to have them burned or buried elsewhere. In Old Maldah town filth is never removed from the private privies, but is left to be washed away by the rains, and the Commissioners appear to be content with this arrangement. The Civil Surgeon of Durbhanga brings to notice that the town was suffering very much from the want of a proper Vice-Chairman, everything being left to an incompetent overseer at a time when the town was flooded by the overflow of the Bhagiruthi and Kumla rivers, and he comments severely on the apathy, listlessness, and utter want of interest evinced by the Municipal Commissioners in the sanitary welfare of the town. He reports that they had not given consideration to the suggestions for improvement made in my Inspection Report; he regrets that so little power or authority is given to him in the matter as a representative of the Sanitary Commissioner; and he asks whether Government could not lay down a rule directing that certain percentages of Municipal Income should be spent yearly on the most urgent sanitary requirements, such as water-supply, drainage, &c.

180. In my capacity of Professor of Hygiene in the Medical College, I delivered 20 lectures on the subject to 40 students in July and August, and also had the usual test and honor examination.

Lecture on Hygiene delivered at the Medical College.

181. A brief *resumé* of the reports which I submitted to Government during the year, in compliance with orders on the subject, is subjoined.

Reports submitted to Government during the year.

182. As stated in a previous part of this Report, the Local Self-Government Act was brought into operation during the year into all the districts, excepting a few, in Bengal. The benefits to sanitation derivable from the measure, and certain matters relating to Sanitary Inspectors and Inspectors of Vaccination, have been described on page 157 of my Annual Report for 1884. During the year under report I was requested in orders No. 1841TM, dated the 1st July; to submit my opinion as to the advisability of extending the provisions of sections 87 to 91, relating to Sanitation, and sections 92 to 96, relating to Vaccination, of the Enactment, to the districts into which it had been introduced; and that, if I should be of opinion that the sections dealing with Sanitation should be extended,

Report on the duties of the Boards appointed under the Local Self-Government Act with regard to sections 87 to 91, relating to Sanitation, and 92 to 96, relating to Vaccination.

I should make precise and definite proposals in the matter, stating clearly what work I would wish each district to undertake, what establishment would be required, what expenditure would be involved, and how it might best be met. In reply, I submitted the following suggestions :—

(1) That the sanitary sections should be extended at once and expenditure provided for the purpose. (2) That if the sanitary sections are introduced, those relating to Vaccination ought also to be brought into operation, as, if this were not done, two establishments would have to be provided—one under Government for vaccination, and the other under the District Boards for sanitary work only. (3) That a Rural Compulsory Vaccination Act, to be worked by the District Boards, should be passed with a view to complete protection of the country, as Act V of 1880 is only suitable for towns. (4) That the duties to be undertaken by the District Boards under the sections relating to Sanitation should consist of—(a) the provision and maintenance of drainage, but not the preparation of large schemes which should be carried out by Government; (b) to keep open and improve present drainage channels; (c) to attend to village drainage, and see that waterway is afforded through village roads, embankments, entrances to houses, &c.; (d) to remedy obstructions to drainage connected with district roads; (e) to erect embankments with sluice-gates, &c., for protection from floods; (f) to carry out the duties laid down in sections 88 to 90 of the Act with regard to water-supply, and to assist the people in improving their tanks; (g) if the control of tanks is vested in them, to see to their proper conservancy, and to lay down instructions with regard to the ones to be devoted to drinking water supply alone, gradually providing one or more of such tanks for every village; (h) to attend to the sinking of deep wells, and to provide the necessary plant for raising water from them, or by means of tubular wells; (i) to prevent the casting into streams, lakes, &c., corpses and carcasses, the steeping of jute indiscriminately, and the different plans of fishing calculated to foul the water and render it unfit for drinking; (j) to provide burying and burning-grounds, and to provide proper lands for extramural interments of Mahomedan and other dead, and, after doing so, to absolutely stop the general practice of burying inside villages and even in houses; (k) in providing proper burning-grounds for Hindus, to arrange for the conservancy of certain village lands in jungle for the cheap and convenient supply of firewood; (l) to cause the Sanitary Inspectors to inspect food supplies exposed for sale in bazars and large marts and the shops of medicine vendors, who should be required to keep a register of poisons, bought and sold; (m) to look after the conservancy arrangements of villages, utilising the services of a resident low caste Hari for the cleaning of villages, and especially for the removal of cow-dung and house-refuse beyond village limits, and their proper preservation for use as manure; (n) to see that owners of unoccupied lands do not allow or let them run to waste and get covered with jungle; (o) to prevent the erection or use of privies in places where sweepers are not available for cleaning them; and (p) to afford to the Deputy Sanitary Commissioners Sanitary Reports. (5) *Vaccination*.—That the Boards should control, through their Inspectors, the vaccination operations in their several jurisdictions, and afford the usual statistics to this Office through the Deputy Sanitary Commissioners; and (6) *Establishment*.—That each District Board should appoint a local Sanitary Inspector, who would be *ex-officio* Superintendent of Vaccination, and perform the duties assigned to the Superintendent of Vaccination, under the Bengal Vaccination Act of 1880, the Deputy Superintendents of Vaccination being dispensed with; and that under the Sanitary Inspector a Sub-Inspector should be appointed for each Local Board.

I also submitted the following observations bearing on the appointment of Sanitary Inspectors and Sub-Inspectors. The Sanitary Inspectors would require to be men of education and training, and would probably have to be taken from the Assistant Surgeon class, with pay from Rs. 100 to Rs. 200 a month rising by regular increments. Many of the present Deputy Superintendents of Vaccination who have been trained to the work might be usefully lent to the Boards. Civil Hospital Assistants who have been trained in the different Medical Colleges of the Province might at times be appointed, if Assistant Surgeons were not available. They would, however, require to be

picked men. The Sub-Inspectors would be the present Inspectors of licensed vaccinators, men well acquainted with the localities where they are employed, who might be transferred to the service of the Local Boards from Government service. Civil Hospital Assistants might also be employed in this grade with chance of promotion to Inspector, if of proved ability and usefulness.

183. Under the orders of Government No. 3376, dated the 15th December 1886, I inspected the North Barrackpore Municipality to enquire into its sanitary condition, with special reference to the insanitary state of village Garulia brought to notice by Messrs. Schœne, Kilburn & Co., Secretaries to the Dunbar Cotton Mills Company. A brief record of the results of this inspection will be found on page 21, paragraph 45 of this Report.

184. During the year a proposal was made by the Military authorities to resume possession, for an artillery range, of the land in Darjiling which they thought was comprised within the boundaries of the old Cantonment at Senchal, and which includes the Rungbool forest reserve, in which are situated the Senchal springs. My opinion having been asked on the question, I submitted that as it was essential that a sufficient and pure supply of water should be preserved for the people in the sanitarium of Darjiling, and for the troops when located in the future Cantonment at Lebong, and that as their health interests, which are also those of the Province, should be carefully safeguarded, none of the existing forest reserve in the Rungbool block should, as proposed, be made over to the Military authorities, but that so much as may be required for their purpose be given from the Senchal block in the north-eastern face of the hill.

185. During the year I was consulted by Government as to the expediency of assigning to the Sanitary Commissioner the duties of Registrar-General of Births, Deaths and Marriages under Act VI of 1886. In my reply No. 4433, dated the 6th August 1886, I stated that it would not be practicable, for the reasons therein given, for the Sanitary Commissioner to discharge the duties in question in such a manner as to fulfil the objects of the Act; but I submitted forms of the Registers of births and deaths which might be used for the purpose.

186. No opportunity offered in this Department during the year under review to give employment to Mahomedans as suggested in the orders of Government contained in Circular No. 15 (General Department—Education), dated the 7th April 1886. The principle therein enunciated is however recognized, and will not be lost sight of should an opportunity present itself for the purpose. In the Vaccination branch of this Department, however, there are at present one Mahomedan employed as Deputy Superintendent of Vaccination, 13 as Inspectors of Vaccination, four as Head Vaccinators, and 26 as Vaccinators, exclusive of a large body (at present 262) of licensed vaccinators, whose number fluctuates from year to year.

187. During the year I received copies of papers for information in which the Sanitary Commissioner for Madras raised the question as to the advisability of bringing Municipal and Aided Schools under systematic sanitary inspections in respect to their sites, construction and size of school-rooms, furniture, latrines and play-grounds, and the amount of study and exercise for the pupils. I was not asked for an opinion in the matter, but I consider that the hygiene of these and similar institutions needs the attention of the Sanitary Department, as a case somewhat similar cropped up during the year in which I was asked by the Chief Superintendent of Telegraphs, Bengal, to depute an officer to inspect the Central Telegraph Office, the sanitary arrangements obtaining in it having been pronounced to be very unsatisfactory.

188. Dr. Lynch was in charge of the office of the Health Officer of the Port of Calcutta from the beginning of the year to the 27th of June, and on the last day of the year. During the interval he was on leave, and Dr. Vincent Richards officiated for him.

Report on inspection of Garulia village.

Report on proposal by the Military authorities to resume possession of certain lands in Darjiling.

Report on the appointment of Registrar General of Births, Deaths and Marriages under Act VI of 1886.

Employment of Mahomedans in public offices.

Advisability of bringing Municipal and Aided Schools under sanitary inspection.

Proceedings of the Health Officer of the Port of Calcutta.

Officer in charge.

189. The marginal table exhibits the number and classes of the vessels

VESSELS.	Inward-bound.		Outward-bound.	
	1886.	1885.	1886.	1885.
Foreign ...	660	646	660	551
Coasting ...	52	134	144	75
Steamers ...	305	387	404	239
Sailing vessels...	407	393	400	387
SEAMEN.				
Europeans ...	18,660	18,989	20,291	15,332
Natives ...	11,270	16,890	17,230	10,134
TOTAL ...	29,930	35,879	37,521	25,466

which were inspected, and the crew—European and Native—which they contained, in comparison with similar information for the preceding year. The comparison indicates that 712 vessels were visited on arrival, against 700 in 1885, and 804 against 626 on departure, showing a decrease of 68 in the number of the former, and an increase of 178 in that of the latter. The yearly differences in the number of inward-bound vessels inspected are controlled mainly by the circumstance that it is not necessary to inspect coasting vessels,

which make frequent voyages to and from Calcutta, at each return visit. The great increase in the inspections of outward-bound vessels was brought about by the new system of granting the Bills-of-Health prescribed by the Government, which came into effect in September 1885 and was at work throughout this year. From a review of the work of the year, I have no hesitation in stating that the manner in which Dr. Richards carried out his duties merits commendation, and that Dr. Lynch also, under great difficulties in moving about the river, which finally seriously injured his health, conducted his duties in the careful, painstaking way he has always done.

190. This officer is reported to have afforded satisfaction. He inspected 12,595 boats and visited the latrines 479 times, and found 457 of the former and one of the latter in a filthy condition; made 470 complaints to the Police; traced 140 cases of sickness on board of boats, and inspected 136 Police water-boats.

Proceedings of the Native Inspector of the Port of Calcutta.

191. In Section VII, paragraph 137 of this Report, I have furnished particulars of the action taken by me in connection with the interests of Vaccination, and in paragraphs 179 to 187 of this Section, I have shown what has been done by me in the performance of my sanitary duties generally. Notices of work done in this direction will also be found interspersed in the portions of this Report preceding this Section. I now propose to submit an account of my proceedings in relation to the promotion of sanitary inspections and work by my subordinates in the Vaccination Department.

Proceedings of the Officers of the Vaccination Department in connection with their sanitary duties.

Work of the Sanitary Commissioner for Bengal.

The following works were performed this year.

I personally conferred with the Deputy Sanitary Commissioners of the Metropolitan, Darjiling, Behar, Sonthal Pergunnahs, Dacca, and Eastern Bengal Circles, to the Sanitary Inspections made by them, and gave them to understand what was required from them in this direction.

I carefully perused the monthly Diaries of Sanitary Inspections received from the Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination, some of them being exhaustive ones. These diaries, 192 in number, furnished reports of the sanitary conditions obtaining in 94 minor towns and 5,804 villages. After reading them, I, in the first place, pointed out to the Officers abovenamed the omissions they had made of such points in the sanitary history of the localities inspected as were required by the rules on the subject or were necessary, the omissions they had made, or irregularities they had committed in testing the registration of Births and Deaths in the same localities, the want of care in preparing, or the submission of superfluous circumstantial details in, the Diaries, &c. I then had extracts from these diaries made showing the important insanitary conditions obtaining in the towns and villages reported on, and forwarded them, with my observations, to the local officers concerned for such action as appeared to be called for.

A very large number of death verification statements from no less than about 32,417 villages and towns were received, not only from the abovenamed officers in their diaries, but also from 108 Inspectors of Vaccination, Head Vaccinators and officers of the same class. I examined these and forwarded

such of them (a large number) as showed that deaths occurring in villages had not been entered in the thana registers, to the Magistrates when the events occurred in rural areas, and to the Chairmen of towns when they occurred in urban areas. I should mention that this procedure entailed heavy correspondence before the cases were brought to final issue.

The earnest attention of the Deputy Sanitary Commissioners and of their subordinates having been requested to the orders of Government, No. 3287 of the 10th December 1886, intimating that the Government of India attached great importance to the performance by them of sanitary inspection work, I maintained a sustained check against retrogression in this direction.

192. These officers inspected, for sanitary purposes, the numbers of towns and

Work of the Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination.

Number of villages inspected for sanitary purposes.

CIRCLES.	BY THE DEPUTY SANITARY COMMISSIONERS.					BY THE DEPUTY SUPERINTENDENTS OF VACCINATION.				
	Number of Officers in—		Number of Towns and Villages inspected in			Number of Officers in—		Number of Towns and Villages inspected in		
			1886-87.					1886-87.		
	1886-87.	1885-86.	Towns.	Villages.	Total.	1886-87.	1885-86.	Towns.	Villages.	Total.
Metropolitan ...	1	1	15	521	536	305	4	36	1,814	1,850
Suburbs of Calcutta ...	1	1	...	...	...	1	1	1	1	1
Darjiling ...	1	1	4	78	82	300	2	1	214	217
Ranchi ...	1	1	9	772	781	281	2	8	145	150
Sonthal Pergunnahs ...	1	1	4	783	787	345	1	1	...	...
Eastern Bengal ...	1	1	3	210	213	64	1	8	342	350
Orissa ...	1	1	1	595	596	1,155	1	1	...	...
Behar ...	1	1	8	328	336	410	1	1	...	...
TOTAL ...	7	7	44	3,287	3,331	2,880	9	9	51	2,617

villages given in the marginal table. These figures indicate that 3,331 inspections, against 2,880 in the preceding year, were undertaken by the Deputy Sanitary Commissioners, and 2,568 against 2,918 by the Deputy Superintendents of Vaccination, showing that there was an increase of 451 inspections on the part of the former class of officers, notwithstanding

ing the large individual failings hereinafter mentioned, and a diminution of 350 inspections on the part of the latter, the greatest burden of the falling off being borne by the Deputy Superintendents of the Metropolitan Circles. Placing, however, the decrement against the increment, the work of the year, it will be seen, culminated in an increase of 101 inspections. The circles, relatively considered, show that the largest number of sanitary inspections were made by the Deputy Sanitary Commissioners of the Sonthal Pergunnahs, Ranchi, Orissa, and Metropolitan Circles, in the order named, and by the Deputy Superintendents of Vaccination, Metropolitan Circles (whose average inspections, individual merit being eliminated, amounted to 462 each), and the Deputy Superintendent of Vaccination, Eastern Bengal Circle; the rest returning inferior numbers, notably the Deputy Sanitary Commissioner of the Darjiling Circle. Contrasted with the inspections of the preceding year, improvement is seen on the side of the Deputy Sanitary Commissioners of the Ranchi, Sonthal Pergunnahs, Eastern Bengal, and Metropolitan Circles, in the order given, the officers of the two first-named circles having more than doubled their inspections, and of the Deputy Superintendents of Vaccination, Ranchi and Darjiling Circles; while retrogression occurred on the side of the Deputy Sanitary Commissioners of the Orissa, Darjiling, and Behar Circles, the falling off in Orissa being very considerable, and of the Deputy Superintendents of Vaccination of the Metropolitan and Eastern Bengal Circles. On the whole, however, I hold to the opinion that a very fair number of villages was inspected during the year under notice for sanitary purposes, particularly by the Deputy Sanitary Commissioners. This mode of appraising the performance of sanitary duty is not one to be entirely relied on. The quality of the work done cannot be numerically shown or the amount of labour incurred. It is easy to run into large figures when the villages are very small, as in Orissa and the Sonthal Pergunnahs.

193. Summaries of the reports on the health condition, &c., of the towns and villages which were inspected during the year, received from the Deputy Sanitary Commissioners and Deputy Superintendents of Vaccination, are submitted in the following pages. In my Annual Reports of former years these summaries were

Report on the Health Condition of the Villages, &c., inspected by the Officers of the Vaccination Department; advice tendered, and recommendations made by them for rectifying Sanitary defects.

furnished in a very condensed form in order to obviate expansion of the Reports; but having in view the opinion expressed by the Government of India on the sanitary work performed by the officers abovementioned, I deem it my duty, in justice to them, to expose as fully as possible what they have accomplished this year. Still, however, I have limited this exposition to those points which bear directly on the sanitation of the localities inspected, omitting much that has been said regarding topography, number and religion of the people, the trades or occupations followed by them, food-supply, &c., where they did not appear to have affected health. I submit that a mine of sanitary information has been afforded in the reports, which is of great importance and value in the interests of sanitation, and well calculated to improve the sanitary status of the localities to which they relate, if only the Government will give effect to the suggestions made.

194. **METROPOLITAN CIRCLES.**—*Dr. Kali Paula Gupta, Deputy Sanitary Commissioner.*—This officer

24-Pergunnah District.

Thanas.	Number of villages.
Bhangor	4
Bistopur	6
Barriopore	9
Baraset	2
Husnabad	3
Bankipore	7
Dum-Dum	6
Total	37

Nuddea District.

Kalupol	3
Damurhudda	5
Bholuka	6
Kumerkhali	9
Kustia	4
Hanskhali	6
Chaugdah	6
Kaligunge	8
Total	47

Jessore District.

Bongong	2
Ganghata	2
Salkopa	2
Narail	4
Jessore	4
Total	14

Khulna District.

Rampal	2
Hughrat	5
Kaligunge	10
Baitaghata	3
Khulna	4
Assasuni	4
Total	28

Hughli District.

Pandua	7
Chanditola	6
Goghat	14
Total	27

Howrah District.

Ulubaria	10
Doomjor	4
Total	14

Murshidabad District.

Thanas.	Number of villages.
Kaliangunge	4
Gorabazar	7
Burwa	17
Dewanserai	2
Gokurn	6
Bhagwangola	12
Mizapore	10
Sagordighi	3
Sujagunge	4
Bharatpore	9
Assanpore	3
Total	77

Birbhum District.

Soori	23
Rampurhat	9
Bolpur	3
Monrewar	5
Dubrajpore	5
Nulhati	28
Total	68

Bankura District.

Kotalpore	13
Bissenpore	6
Anda	3
Gangajalghati	11
Bankura	8
Total	41

Burdwan District.

Ranigunge	7
Salunahat	6
Gankur	9
Kotugram	7
Mangalkot	2
Assensole	16
Kutwa	11
Total	58

Midnapore District.

Midnapore	28
Keshpore	8
Tamluk	4
Satabhatta	3
Panchkura	11
Garbeta	12
Maslandpore	7
Nandigram	6
Glattal	15
Chandrakona	10
Total	108

returned from deputation duty and rejoined his appointment on the 25th November 1886. Moreover, most of his time since joining was occupied in supervising vaccine operations in rural villages. His sanitary inspections have not, consequently, been so full as it would otherwise have been. Nevertheless, he inspected, for sanitary purposes, 13 towns and 514 villages situated in the thanas in the districts named in the margin. The subjoined facts, which are of much value, have been taken from his report. Besides Dr. Gupta's inspections, Dr. French-Mullen, who officiated for him up to the 7th July, inspected five towns; and Assistant Surgeon Jadub Chunder Ghose, Rai Bahadur, who succeeded Dr. French-Mullen in the officiating appointment, inspected up to the 24th November one town and seven villages.

195. The districts of **Bankura, Birbhum and Burdwan** (west) are elevated, dry, and the soil is laterite or clay, stony or carboniferous. The country is undulating, and the drainage free. *Villages and Dwellings.*—The villages are compact, open and airy, with a few trees, and, eliminating parts of Bankura, there is no jungle

worth the name. The houses are dark and not well ventilated. *Drainage.*—The paths act as drains for rain-water. *Conservancy.*—Manure pits and heaps are found more or less in all villages. Defecation is carried on in fields and jungles and on the road and tank sides. *Water-supply* is taken from tanks and wells, and from rivers in villages situated on the banks of current rivers. The quality of the water is not good, nor is the quantity always sufficient, the tanks having become silted up and choked with weeds. *Roads.*—**Bankura and Birbhum** possess good roads metalled with laterite or *kunkur*, which is locally procurable. Most of them have no trees for shade. Young plants have, however, been lately planted on them, but more are required. *Jute-steeping.*—No jute is grown in these districts. *General health.*—Malarious fever prevailed largely in all the three districts a few years ago. It has abated very considerably, though cases were noticed. Cholera was bad in November and December in some parts, though comparatively less than in the neighbouring districts. **Burdwan, East, and**

Hughli.—These districts are situated on lower ground, and are not so dry as West Burdwan. The country is more flat, and the drainage not so free. *Dwellings.*—The villages consist chiefly of mud houses and huts built in rows, and crowded together. *Roads.*—There are no roads in the villages. The Grand Trunk Road passes through these districts, and there is a metalled road from Burdwan to Katwa and from Mymari to Chuckdighi, and kutchas from Burdwan to Kalna and from Hughli to Dhaniakhali, and thence to Boinchee. Shade is afforded by trees. *Water-supply* is taken from tanks and rivers. Of the rivers, the Bhagiruthi and Damuda are current, but the Saraswati, Kunti and Kana nuddees are stagnant for the greater part of the year. The tanks have silted up and are choked with weeds, and they are not now flushed and their water renewed by the Damuda floods, owing to the embankment. The water-supply is bad in quality and insufficient in quantity in many parts. *Conservancy* is very bad. The road and tank sides, as well as waste lands surrounding houses, are resorted to for defæcation. *Jute-steeping.*—Some jute and flax are grown in Hughli, and steeped in ponds and excavations. *General health.*—Malarious fever of a severe type prevailed for several years and devastated the country and depopulated many villages in these districts. Cholera occurs sporadically. Small-pox is rarely heard of. In this connection the drainage of the Dankuni bhils should be mentioned as a great improvement and amelioration of the sources of malaria. **Howrah.**—This is a small district of two sub-divisions full of bhils and jullahs, low and flat, and much submerged during the rains. *Drainage* is not free. *Dwellings.*—The villages consist chiefly of compact mud houses, very thickly surrounded with trees and bamboo clumps, and intersected by narrow and raised pathways. *Water-supply* is obtained from tanks and the rivers Hughli, Damuda, and from some khals. The quality of the water is fair and the quantity abundant. *Conservancy* is most objectionable, the road and tank sides being thickly covered with human excreta. *Jute.*—Some jute and flax are grown and steeped in ponds and holes. *General health* was fair. There was not much ague, but frequent outbreaks of cholera. **Midnapore.**—This is a large district with an extensive seaboard, and is elevated, being the continuation of the Chota Nagpore plateau. The soil is laterite, and the north and west parts are covered with forests of sâl and other trees, and are very sparsely populated. *Dwellings* consist chiefly of mud houses, but not crowded, and fairly shaded by trees. There are no roads in the villages. *Water-supply* is taken from tanks and rivers; the former have silted up and are choked with weeds; the latter are the Suburnorekha, Cossye, Seelye, and Roopnarain, the water of which is sweet, and Haldi and Ru-soolpore with brackish and undrinkable water. The embankments which protect the country from inundation prevent the flushing and renovation of the tanks with fresh spring water from the Ramghur hills, the sources of the Cossye and Seelye. *Conservancy* is very bad, the road and tank sides and waste lands around dwellings being freely resorted to for defæcation. *General health.*—Ague is considered to have invaded the northern half of the district from the direction of Ghattal and Chandrakona, which formerly formed parts of malarious Hughli; but the southern sub-divisions of Tumluk and Contai, which border on the sea, are free from this malady, though cholera and small-pox are found in them, the latter with greatly abated severity. **Nuddea.**—*Villages and Dwellings.*—The villages are more open and free from jungle as a rule. The houses are constructed of mud walls with straw roofs in the south, and of mat walls in the north for fear of floods. The village sites are low in the south, but elevated in the north. The soil consists of sand mixed with clay. *Water-supply* is taken principally from tanks and wells, except in places in proximity to current rivers, such as the Bhyrub, Bhagiruthi, Jellinghee and Matabhanga, and to bhils. On the whole, water is scarce. *Conservancy* is objectionable. The fields are resorted to for defæcation. It is said that the villages are clean and free of manure heaps and pits; but this does not accord with my own observations. *Roads.*—There are no village roads. The Eastern Bengal State Railway passes through from south to north. *Jute-steeping.*—Some jute and flax are grown. *General health.*—Cholera was more or less present in November and December, and ague, which was very prevalent in 1883-84, disappeared after the floods of 1885 “like magic,” showing the good effects of inundation

which washes away all filth, and fills up the dighis (tanks) and ponds with fresh water. No small-pox or any other zymotic disease was prevalent. **Jessore.**—*Villages and Dwellings.*—The villages are very shady, but full of jungle. The houses are built on raised mud floors, and consist of mat walls with straw roofs. Some of them wear a very picturesque appearance with painted split bamboo artistically arranged. In the southern part each house has a large garden of fruit trees, such as areca nut, coccanut, &c. *Water-supply* is scarce and difficult to obtain in places away from rivers and bhils, and wells are dug in such places. The water of the Bhyrub is stagnant, and is dreaded by the people as apt to cause fever; but they freely bathe in it. The water of the rivers Nobogunga, Kumar, Chitra, and Modhumoti is good. *Conservancy* is bad. Defecation is carried on in fields and jungle and on the banks of current rivers. *Roads.*—The village roads consist of paths; the public roads require to be planted with more trees for shade. *Jute-steeping.*—Some jute and flax are grown, and consequently steeped. *General health.*—Jessore has always had a bad name. The district abounds in marshes, bhils, rivers and khals, which account for its being aguish. Cholera was more or less present in November and December. **Khulna.**—The *Dwellings* are situated on the banks of rivers and khals, and consist of mat walls and thatched roofs, some being pretty and picturesque. Each house has a garden attached to it of fruit trees, and this makes the villages very shady and dark, and interferes with ventilation. *Water-supply* is taken from rivers and khals where the water in them is not brackish, otherwise from tanks and wells; but *all* rivers and khals contain brackish water to a more or less extent. *Conservancy* is bad, as defecation is carried on in jungles and on roadsides and banks of khals and rivers. *General health.*—Cholera prevails periodically, and ague in some parts. **24-Pergunnahs.**—This is a large district, and extends from the sea to the south of Bagirkhal in the north and from the Hughli (west) to the Koppoducko river (east). The southern and eastern parts are Sunderbuns, or low alluvial lands, abounding in a network of rivers and khals, partitioned into lots for rice cultivation. The north and middle portions are more settled, and contain some of the largest and most densely populated villages. The villages are very jungly and badly drained, with numerous ponds and tanks containing moderately good water. *Conservancy* is very bad, the road and tank sides being contaminated. *Jute* is grown in the district. **Murshidabad.**—This district is comparatively dry and less jungly and feverish, but Berhampore and its neighbourhood are distinctly malarious. The rivers Bhagiruthi and Bhyrub flow through it, and the Jellinghi forms its eastern boundary. The *Villages* are situated on low ground, and those near the rivers are flooded annually. The soil is sandy and clayey. There are few trees and no roads. Good drinking water is scarce in places away from rivers, and here tanks and wells form the source of the water-supply.

196 **GENERAL OBSERVATIONS.**—*Personal and domestic habits of the people.*—The Hindus, with the exception of the lowest castes, are cleanly in their habits. They rise betimes, smoke tobacco which helps the bowels to act, go out with a *lota* or *garoo* in hand and defecate in the nearest convenient spot and then return, brush their teeth with twigs and bathe, as a good Hindu never eats without making his daily ablution. They are very scrupulous in keeping the interior of their houses and rooms clean, though cesspools are found in the yards. Cowdung, which is regarded as a general antiseptic and purifier, is freely used in leeping the floors of mud, and even of masonry houses, sometimes making them damp when the process is pushed too far. This is bad, as the people in villages generally sleep on the ground floor. The Hindu men bathe and wash their clothes once and the women twice. They change their clothes if defiled in any way, such as by touch of cooked food, or in obeying the calls of nature which impregnate the clothes with foul smell arising from the excretion. The diet and food of the Hindus are prescribed in the Shastras. Vegetables vary according to the day of the moon, and fish is prohibited, and fasts, more or less entire, enjoined at new and full moon to adult men. Two meals—first at mid-day and second late at night, both heavy—are to be taken. The case of Hindu widows is well known and need not be dwelt on here. A religious sanction or prohibition is attached to everything a Hindu may do in order to make it binding on his conscience, so that he does everything religiously. The Hindu lying-in room is mostly ill-chosen. It is either

a newly-made room with damp earthen floor and with leaf walls and roofs, or the most dark and ill-ventilated room in the house, and a roaring hot fire is kept up day and night in it. The parturient mother is drugged with large boluses made of powdered black pepper and ghee and fed with beaten rice (choora fried, and all liquids are withheld. On the fourth or fifth day she is allowed some rice and vegetables, but no fish during the whole lying-in time, which is over on the 21st day, or in three weeks. The child is smeared with mustard oil and exposed to the sun to harden it, the oil being supposed to act like flannel. The lying-in period is considered to be infectious, so beggars do not get any alms, and dirty clothes are not sent to the wash. The same restrictions are observed when a death occurs in a house, with the addition that no shaving or cutting of hair by the barber is allowed during the whole time of mourning. These restrictions are very sensible and help to localise any contagious disease. The period of mourning varies with the castes,—10 days for Brahmins, 15 days for Baidyas, and 30 days for Sudras, showing the Brahmin law-givers had been guided by selfish motives, as all deaths are equally contagious, if at all. Low caste Hindus and Mahomedans, as a class, are not so clean in their personal habits from a Hindu point of view. They do not regard contact with cooked food as defilement. Again, three or more persons will eat out of the same plate. They do not go in for leeping, washing and scrubbing like the Hindus. They do not observe any restrictions at births and deaths, neither do they go in for frequent washings and ablutions. Otherwise there is not much difference between the two classes. People in villages sleep on the ground floor with only a mat for their bedding. They go about bare-headed and bare-footed with a cloth covering the lower part of the body. Women wear their *saris* so as to covering the whole body, but both men and women are thinly and insufficiently clad, and liable to suffer from cold and inflammation in severe and inclement weather. The surroundings of a home are not clean, as manure pits, rubbish of all sorts, and night soil are frequently to be met with. *Water-supply*.—The people are not so apathetic as regards good drinking water as is generally supposed. They try and procure the best water available, and will walk even long distances for it. They are not so particular, however, as to water for washing and culinary purposes. *Registration*—This was looked after in the usual manner, and it was found that deaths were correctly reported. *Advice tendered*—Dr. Gupta advised the people everywhere to clean and reserve tanks for drinking water, and not to pollute by defecation road and tank sides. *Recommendations*.—He makes the following recommendations:—(1) One or two tanks should be cleared and reserved for drinking water. (2). The rules of Manu prescribed that a Hindu should rise betimes, take his bow and arrow, go out to the outskirts of his village, shoot his arrow and follow it. Wherever it alights he was to dig a hole, defecate, and then cover it up with earth. There would be no complaint if a Hindu followed this injunction, but this is not done. He goes to the nearest and most convenient spot and pollutes the air and ground. Every house-holder should dig a trench at the furthest corner of his house and to the leeward, and use it as a latrine for a time, and then cover it.

197. *MUNICIPAL INSPECTIONS*.—The great defects of the small mofussil Municipalities are obstructed drainage, bad conservancy and foul water-supply. The drains and holes and excavations in every Municipal town are full of water during the rains. Surveys should be undertaken and levels made in order to improve the drainage. Very few mofussil Municipalities possess public latrines, and Part IX is not in operation in most of them. *SUBURBS OF CALCUTTA*.—*Domestic cleansing*.—The sanitary condition of this Municipality is much the same as before. In most of the gowalla bustis the shed or place where the cattle are located is a "sea of liquid filth pent up or partially flowing into side drains or on roads." Heaps of refuse and rubbish are to be found. The Maharatta ditch is more or less full of sludge or filth from one end to the other. *Drainage* is more or less neglected. *Drinking water* is sometimes obtained from tanks in gardens or other places, and these are in better condition and contain fair potable water. Those who buy or steal filtered water from the Calcutta hydrants are best off. *Conservancy*.—House service is done by contract, but the work is much neglected and not performed daily. The number of the public latrines is altogether inadequate, and they are to be found in only a few bustis, and are not kept

clean. The Singottee busti is most filthy, and the offal and bones of slaughter-cattle are daily burnt there, evolving a most offensive stench. *General health.*—Cholera is never absent from the Suburbs. It prevails epidemically twice in the year, viz., once in November and December and again in March, April and May. The various types of fever, diarrhoea and dysentery are also common. The death-rate from all causes, specially from cholera and fever, is generally very high,—much higher than in the Metropolis. *Suggestions for improvement.*—Dr. Gupta submits the following suggestions:—(1) The great remedy for the amelioration of the insanitary state of the Suburban Municipality is its amalgamation with the Calcutta Corporation. The people being poor and the income limited, the Suburban Municipality can never expect to do much in the way of improvement, although it must be stated that they have done a good deal in the way of improving roads, drainage, bustis, water-supply, &c. (2) Conservancy should be improved, and daily removal of night-soil rigidly enforced by doing away with the contract system and employing a municipal establishment, as is done in other towns. Public latrines should be built in every *busti* and kept clean. (3) The gowallas should be compelled to register their trade and to submit their premises to inspection and control. The Municipality should make arrangements for removing the cowdung and urine, which could be sold as valuable manure at a considerable profit. (4) The tanners and the butchers should also be controlled and their trades regulated. All piggeries and offensive trades, such as bone-burning, should be removed outside the limits of the Municipality, and the scavenging stand should be removed far from the Animal Vaccination Depot.

198. *Assistant Surgeon Umes Chunder Ghose, Deputy Superintendent, First Metropolitan Circles.*—This Officer's

Thanas.	No. of villages.	Thanas.	No. of villages.
JESSORE DISTRICT.		Khulna DISTRICT.	
Bongong ...	14	Khulna ...	17
Gaighata ...	2	Kaliganj ...	21
Gourepotha ...	26	Kalarua ...	12
Mohespore ...	26	Satkhira ...	9
Saraha ...	8	Magura ...	9
Gadkhalli ...	14	Asasuni ...	7
Jessore ...	39	Bagirhat ...	47
Monirampur ...	5	Moreilganj ...	34
Jhenida ...	11	Mollahat ...	20
Saikopa ...	6	Rampal ...	28
Kaligunge ...	25		<hr/>
Kotchandpur ...	3		204
Salikha ...	1		<hr/>
Magura ...	10		
Narail ...	29		
Kalia ...	13		
Lohagara ...	19		
Muhamadpur ...	4		
	<hr/>		
	255		
	<hr/>		
		24-PERGUNNAHS DISTRICT.	
		Baraset ...	16
		Nalhati ...	4
		Habra ...	8
		Deyganga ...	18
		Dum-Dum ...	18
		Bassirhat ...	21
		Hasnabad ...	21
		Bhaduria ...	11
		Haroa ...	16
		Bhangor ...	7
			<hr/>
			139
			<hr/>

Sanitary Inspections extended over 15 Municipalities and 598 villages in the thanas in the districts named in the margin, and the following abstract from his detailed and interesting report on the subject discloses the sanitary estimate of these towns and villages.

199. The villages in thanas KALIGANJ, ASASUNI, PAIKGATCHA, RAMPAL, MOREILGANJ, and part of the BAGIRHAT thana in the **Khulna** District and half of the **Bhangor**, **HAROA** and **HASNABAD** thanas in the **24-Pergunnahs** District are situated on a comparatively lower level than the other thanas in the Circle. About half the

number of villages in thanas KALARUA, MAGURA, DUMURIA, BAITAGHATTA, KHULNA, and MOREILGANJ in the **Khulna** district and of thanas MAGURA, NARAIL, KALIA, and LAHAGURA in the **Jessore** district are situated on the banks of rivers. Swampy tracts of rice cultivation are common, and undergrowth and jungle are more or less abundant everywhere, the latter especially in the MAGURA and MAHOMEDPUR thanas and in part of the NARAIL and LAHAGURA thanas in **Jessore** and in the SUDDER thana in **Khulna**. The soil of the circle is clayey, except in thanas MOLLAHAT in **Khulna** and **Kalia** and LAHAGURA in **Jessore**, where it is sandy. The following observations are common to all the thanas in the Circle, with scarcely any differences. *Dwellings and Domestic cleansing.*—The dwellings are badly constructed, and as a rule devoid of ventilation, excepting, to some extent, those which have their walls made of split bamboo, as air can pass through the crevices between the bamboos; but as these openings are permanent, the people are exposed to cold and rain. The floors of the dwellings are generally kutchra, but are kept clean by keeping them almost every morning. The house yards are swept regularly twice a day, except at harvest time. The bed clothes are

rarely washed, but are from time to time exposed to the sun. The house, cook-room and other refuse, and the excreta of cattle, are collected near the houses, where they remain and decompose till they are removed for manuring the fields. The Mahomedan houses are, as a rule, surrounded with jungle and superabundant vegetation, to enable their females to obey calls of nature unobserved by outsiders. The cattle are generally housed separately, but the poor keep them in the verandahs of their dwellings. In general conservancy there has been no change. It may safely be said to be *nil*. *Roads*.—All the sub-division stations, except **MAGURA** in **Jessore** and those in the **24-Pergunnahs**, are connected with their head-quarters by metalled roads. There are some metalled roads in the **24-Pergunnahs**, but scarcely any in **Khulna**. These roads pass through some of the villages, and where such is the case, the people are afforded the benefit of communication. On the whole, however, roads are a crying want of the people. *Drainage*.—It would be no exaggeration to say that anything like a drainage system is almost absent in the Circle. Most of the rivers and khals, which formed the natural drainage of **Jessore** and **24-Pergunnahs**, have silted up, prominent among them being the Soonti and Nowayee nuddis in the *Baraset* sub-division in the **24-Pergunnahs** and the Betna in the *Bongong* sub-division in **Jessore**. Another peculiarity remarked this year is that the banks of the rivers are on a higher level than the places away from them, and as a consequence the water of the bhils cannot easily discharge into the water-courses. As remedial measures, the water of some of the abads in the **24-Pergunnahs** is artificially drained into some rivers and khals to help cultivation; the indigo-planters of the *Magura* sub-division in **Jessore** have excavated a few canals for irrigation and drainage purposes, which have proved successful to a certain extent; and Government has excavated one canal to drain bhil Bullay in the **BADURIA** thana in the **24-Pergunnahs**. On the other hand, the people of **MOREILGUNJ**, **RAMPAL** and **BAGIRHAT** thanas, instead of draining the water of the busti into the khals, have done the reverse, in order to help the growth of betelnut and cocoanut trees. The Central Bengal State Railway embankment has to a certain extent obstructed the drainage of the *Baraset* and *Bongong* sub-divisions. *Water-supply*.—This is defective in almost all the thanas of this Circle. In the **24-Pergunnahs** the people in the **DUM-DUM**, **BARASET**, **NAHIATI** and **HAURA** thanas take their drinking water from the Soonti river and from tanks. The river has silted up and stagnated, and is full of decomposing weeds and leaves from bamboo jungles along its banks. In some places certain portions of the river have been converted into tanks by embankments placed across it. In the **BARASAT** thana most of the tanks are old and shallow, and dry up in April and May. The water of some of them was green in February. In **DEYGANGA** thana there are some large tanks known as “Seteye dighis,” but these have become old and shallow, and require to be de-watered and re-excavated. The other tanks are shallow and full of weeds. The Padma nuddi dries up in April and May, when the people make excavations in its bed for water for drinking. In some villages in the **BHANGOR** thana there are a few good tanks, but in the others shallow tanks and bhils are used; but they dry up in April and May, when water has to be brought from a distance of three or four miles. In almost every village of **HARWA** thana there is at least one tank situated at some safe distance from the bustis; but they have become old and shallow and are covered with weeds, and on the banks of some of them there are Mahomedan burial-grounds. If these tanks were de-watered and re-excavated, pure drinking water would be available. In **HOSSAINABAD** thana there is the Itchamuti river; but its water is fit for drinking only in winter, as it becomes brackish in the hot and rainy seasons. There are, however, a few good tanks here and there. In some villages the people have to bring their drinking water from a distance of seven or eight miles. In the **BUSSIRHAT** thana some villages get the water of the Itchamuti river; but the majority of them take it from old shallow tanks which dry up in April and May, and are covered with weeds. There is a large tank, known as Naora dighi, about two miles distant from the sub-divisional office. It is situated on a safe site, but its water is contaminated by drainage from the fields and decomposing weeds, especially during summer. In the **BADURIA** thana the inhabitants of the villages which are situated on

the banks of the Itchamuti river resort to that river, but the others have to depend on bhils, baors, and dirty shallow tanks full of weeds. (In the baors jute is steeped. *Water-supply in Jessore.*—In the GAIGHATTA thana some people take their drinking water from the Itchamuti; but this river is covered with weeds, innumerable branches of trees are steeped in it to attract fish, and dead bodies are cast into it. Others take it from baors and tanks, but the tanks have become old and shallow and are full of weeds. In the BONGONG thana, the condition of the water-supply is almost the same as in Gaighatta, the only difference remarked being that there is more current in the river than at Gaighatta. The Gopalnagore baor is also resorted to, but its mouth has silted up and requires to be opened to establish communication with the river. In the GAURAPOTA thana a few villages use the water of the Itchamuti river, some villages take it from the Kodla river, which is full of weeds; some take it from the Betna river, which emits nauseous smell from decomposing weeds; some take it from baors, bhils, and old shallow tanks which are full of weeds, and most of which dry up in April and May; and some take it from cuttings or excavations, the water of which is almost black. In the MOHESPUR and KOTECHANDPORE thanas, the inhabitants of some of the villages depend for water on the Kapadak river, commonly known as Bhoynubuddi. This river is full of weeds; kumars (contrivances to attract fish) are put into it; and dead bodies are cast into it. The inhabitants of the other villages take theirs from bhils and baors and from old, dirty, shallow tanks. All of these are full of weeds; kumars are placed in the baors; and some of the bhils, baors and tanks dry up in April and May, when the people make excavations in their beds for water for drinking. The inhabitants of some of the villages of the Mohespur thana have to walk a distance of two or three miles for a vessel of drinking water. In the KALIGUNJ thana some villages take water from the Chitra river and from baors, but kumars are placed in these reservoirs, and they are full of weeds; some use the straw-coloured water of some dirty ponds; some take it from wells, but most of these are situated on objectionable sites; their cone of percolation is not kept clean and free from contaminating causes; and bathing and washing of utensils are carried on in proximity to them. Some of the wells have mud parapets around their mouths to prevent inward drainage. The people of some villages have to go a distance of two or three miles for a vessel of comparatively good water. In the JHENIDAH thana the water-supply for some villages is taken from the Beng river and from khals which are full of weeds. Some villages take it from the Nobagunga. The water of this river is good, but its current is obstructed by bandals (embankments across the river) and kumars. The SALEKOPA thana receives its water-supply from the same river. In the MAGURA thana the inhabitants of most of the villages take it from the river, and those of a few from cuttings and excavations. In the MAHOMEDPUR thana three-fourths of the villages use river water, and the rest have to depend on bhils and tanks. The former dry up in summer, and then the people have to obtain water from a distance of three or four miles. The inhabitants of some of the villages of SALIKA thana take their drinking water from the Chitra and Fulki rivers, which have silted up to a certain extent and are full of decomposing weeds; while the others have to content themselves with water from bhils and shallow tanks. In some villages, however, there are pretty good tanks. In more than half the number of villages in the LAHAGURA, KALIA and NARAIL thanas the people use river water. In the MONIRAMPUR thana some villages take water from the Kapadak river, which is full of weeds and contain kumars, and dead bodies are cast into it; some villages take it from the stagnant Bhoynubuddi, which is covered with weeds; some from the Harihar nuddi, which dries up in summer, when the people make excavations in its bed; and others have to content themselves with the water of bhils and shallow tanks. In the SUDDER (Jessore) thana some of the villages resort to the Bhoynubuddi and Mukteshwari rivers, which are full of weeds and have silted up at their sources; some villages have wells, but they are situated on objectionable sites, have no parapets around their margins, and are polluted in many ways; and some villages use old and shallow tanks. The water of the Kapadak river, which is full of weeds and kumars, and into which dead bodies are cast, is used by some of the villages in thana GADKHALLI; while other villages obtain water from bhils and baors, which are

full of weeds, and some of which dry up in April and May. In the SHARSA thana some villages resort for water to the Itchamutti, some to the Betna and Kodla rivers, which are full of weeds, and some take theirs from shallow tanks, bhils and baors, some of which dry up in April and May. **WATER-SUPPLY in Khulna.**—In the KALIGUNGE and ASSASUNI thanas, water is generally taken from cuttings and shallow ponds which are covered with weeds; but in a few villages there are one or two pretty good tanks. In the SATKHIRA thana the people drink tank water. Some of the tanks are good, but most of them are in a bad condition and contain animalcules, and the water is muddy looking. Many villages in the KALARUA thana take water from the Betna river. This river has silted up at its source; is full of weeds; dense jungle covers its banks; dried leaves fall into it; and dead bodies are cast into it. The decomposition caused by the weeds and leaves is so great in summer as to kill even the fish. At this season also the want of water is so bitterly felt that the people prefer the water of old shallow tanks to that of the Betna. In the MAGURA thana some of the villages use the water of the Kapadak, which is full of weeds, and kumars are placed in, and dead bodies are cast into it; while other villages have to content themselves with the water of shallow and dirty tanks which are full of weeds. In the SUDDER (Khulna) thana, the Bhoyrub and Atarabanki rivers are resorted to by most of the villages, but dead cattle are more frequently thrown into them than into any other river in the Circle. The villages in the BAGIRHAT, RAMPAL and MORRELGUNJ thanas, which skirt the rivers, drink their water, especially during the winter; in the other villages tank water is used, but almost all the tanks contain weeds. In village Demma in the Rampal thana, the vegetation is so luxuriant in one tank that an elephant can easily hide therein. In the MOLLAHAT thana, river water is drunk by all the people. *Disposal of dead.*—No improvement was seen under this head. In the report for last year it was stated only the poorer class of Hindus cast their dead into water-courses, that but the observation of this year disclosed a worse state of matters, for even the higher class of Hindus follow the same reprehensible practice. *Food-supply.*—In some villages in the Bongong sub-division in Jessore the poorer class of people were found to be very badly off in this respect, as they had to subsist on one meal a day, owing to the crops having been destroyed by inundation during the last two years. No scarcity was observed in any other place. Milk, one of the most important articles of diet, is scarce in this Circle. The zemindars are converting the pasture lands into cultivable ones; the cattle have suffered by eating grass which had been submerged and become half rotten during the inundation; and in many villages the cattle cannot have sufficient water. *Wine* to these causes combined the breed of cattle is fast degenerating. The *fish* supply is also diminishing, as a large quantity of it is exported by rail to Calcutta and other places; and the fishermen remark that the number of fish in the water-courses is also getting less. *Clothing.*—The observations of the Assistant Surgeon go to show that more than half the rural population in the Circle are insufficiently clad. During the winter months it is really pitiable to see the children of the poor with only a piece of thin rag on their bodies. *Jute-steeping.*—Jute is cultivated in all the thanas of North **24-Pergunnahs**, in the SUDDER and part of BONGONG thanas in Jessore, and in a very few villages in Khulna. It is generally steeped in pits and excavations within the villages, and in the roadside cuttings. In some villages it is steeped in ponds and shallow tanks the water of which is used for domestic and culinary purposes, but very rarely in tanks and water-courses from which people take their drinking water. The process is carried on from the middle of August to the middle of October, when fever is prevailing almost everywhere, and the Deputy Superintendent says that, as decomposition of weeds and other organic matters remain in the villages, it is not easy to say how much fever and bowel-complaints are due to this cause; but that there is “not the slightest doubt in the mind of any sensible man that the process of steeping of jute contributes to a certain extent in giving birth to the maladies.” *General health.*—In Jessore the health of the people was indifferent, and enlargement of the spleen was seen everywhere, except in thanas BONGONG, SOLEKOPA, and in parts of the JHENIDA, KALIA and NARAIL thanas, where the health was pretty good. In Khulna the people of BAGIRHAT, RAMPAL, MORRELGUNJ and MOLLAHAT thanas

enjoyed pretty good health. In the other thanas they suffered much from fever and enlargement of the spleen. In SATKHIRA thana out of 100 persons examined indiscriminately, enlargement of the spleen was found in 79. In the **24-Pergunnahs** the health was indifferent in all the thanas. *Advice tendered.*—The Deputy Superintendent reports that, whenever possible, he pointed out the sanitary defects to the people, and that in some places they recognised them, but that in many they paid no attention to the suggestions. *Suggestions for the rectification of important Sanitary defects.*—The same Officer submits the following suggestions:—(1) That the silted-up beds of the rivers and khals be cleared, and the people prevented from casting corpses and carcasses, and the fishermen from placing kumars and bandals in them. (2) That the old shallow tanks be de-watered and re-excavated. Unless the Government take this matter in hand, there will be no hope of improvement in this direction, as the zemindars are apathetic and indifferent to the sufferings of the people. In many places there are large old shallow tanks outside the village boundary which may be taken up beneficially, and the owners forced either to de-water and re-excavate them themselves, or to sell them to the Local Boards, who should be requested to lay aside a portion of their income for improving them. As scarcity of water is very general, it would not be an easy task to excavate new tanks everywhere, unless the suggestion put forward by Dr. Gupta in the *Englishman* newspaper of a recent issue, that if a fund were raised in commemoration of the Empress's Jubilee, for excavating new tanks, could be given effect to. (3) That all undergrowth and bamboo jungle, especially on the banks of rivers and tanks, be removed. *Registration.*—This subject was carefully attended to.

Nuddea District.	
Thanas.	Number of villages.
Kotwali	35
Kissengunge	15
Chupra	31
Nakasipara	11
Kaliegunge	29
Hanakhalli	7
Chaudanga	2
Damurhuda	10
Kalupole	21
Jibunnagar	16
Alumdanga	43
Melherpore	28
Gauhati	18
Karimpore	11
Teyhatia	12
Ranaghat	12
Chagdah	17
Santipore	15
Koostica	15
Kumerkhalli	7
Bhudulia	7
Total	361

Birbhum District.	
Nalhati	11
Ramporehat	8
Soori	4
Doobrajipore	4
Lalipore	3
Bulipore	3
Sakulipore	11
Total	44

Murshidabad District.	
Thanas.	Number of villages.
Dowlatabazar	10
Manullabazar	1
Assanpore	3
Bhagwangola	25
Shabanagar	5
Goas	25
Kulliangunge	12
Sagirdighi	6
Raghunathgunge	26
Dewansera	10
Sooti	24
Samahergunge	20
Mirzapore	8
Rharupore	8
Khurgram	12
Gokurno	7
Kandi	11
Sujagunge	10
Gorabazar	7
Haripurpara	7
Nowadah	6
Jellinghi	7
Total	255

200. *Assistant Surgeon Preumber Mittra, Deputy Superintendent of Vaccination, 2nd Metropolitan Circle.*—This officer's sanitary inspections extended to 6 towns and 660 villages situated in the thanas in the districts named in the margin. The report submitted by him is interesting and very exhaustive. The following abstract embodies, for the sake of abridgment, only the salient and useful observations connected with sanitation contained therein.

201. **Nuddea.**—GENERAL OBSERVATIONS RELATING TO THE DISTRICT AS A WHOLE.—This district is on a lower level than the districts of Jessore and Murshidabad. It is drained by the rivers Bhagiruthi, Khuria, Churni, Itchamatti and

Pudma with their branches. It is devoid of hills and has no forests. The soil is, on the whole, clay with an admixture, in some parts, of sand, and is retentive of moisture for a long period. Its climate is humid or moist, specially during the rains, and in autumn the atmosphere is charged with paludal miasm which causes increase of fever. It is more subject to floods than the surrounding districts. Nevertheless it has not been yet provided with embankments, and consequently a large portion of it remains under water. The soil is fertile and suited for the cultivation of rice and other cereals, including tobacco, betel, sugarcane, &c. *General health.*—There was a little more fever than during 1885, when there occurred a general inundation, indicating the good effects of flooding. There was somewhat less cholera, and the outbreaks were generally sporadic in character.

202. OBSERVATIONS MADE AT EACH THANA VISITED IN THE **Nuddea District.**
Ranaghat thana.—*Dwellings and Domestic cleansing.*—The houses are free from ground damp. Domestic cleansing is regulated by the social status of the people, but the houses of the gowallas and moochis are generally unclean. The Maho-

medans also do not, as a rule, care for conservancy or cleanliness. Cow-house refuse and cowdung pits are common, and were found to be prejudicial to health. In several villages sweepings and other refuse are thrown and accumulated on the pathways and passages, or obstruct the ditches, and defæcation around dwellings and in the beds and on the banks of rivers is common. The cess-pools and water-logging in the passages in village Ayestollah were found to constitute a great nuisance and to be detrimental to health. Bamboo clumps do not abound in this thana, but in several villages jungle is abundant, which "exhale miasmatic emanations." *Roads and Drainage.*—Fair-weather roads are wanting in many parts of this thana. There are no drains, and the ditches are obstructed in the manner above stated. *Water-supply* is generally taken from tanks and bhils. The tanks are covered with pana (*Pistia stratiotes*) and other weeds, and are contaminated by washing of clothes and cattle, by refuse thrown on their sides, by defæcation around and about them, and in other ways. No tanks have been set apart exclusively for domestic purposes. Many of the large tanks in Gangnapur and many other tanks are muddy, or in a silted-up condition. There are very few bhils, and the Puddo and Nashter bhils, which are somewhat important ones, are shallow and muddy, and dry up in summer. *Disposal of the dead.*—The Mahomedans have no fixed places for burials, and at Duttapulia the Bysnabs bury their dead in a sitting posture at a small depth. *Jute.*—This is largely steeped in the tanks in Ayestollah and Mohishdanga, and is considered a probable cause of increase of sickness. *General health* was, on the whole, better than in the neighbouring thanas; but it was noticed that the population of village Catawari has been much reduced by fever and cholera during the last three or four years. **CHAGDA thana.**—This thana is situated on a lower level, and is much more flooded than the neighbouring thanas of Ranaghat, Jaguli and Santipore. The soil consists of a mixture of clay and sand, which retains moisture for a long time. There are a few chur villages in this thana. *Dwellings and Domestic cleansing.*—The houses are not crowded together, but are defective in internal ventilation. They and their surroundings are kept in a filthy condition. Jungle abounds in several villages. Conservancy is little cared for. Cess-pits, emitting unpleasant odours, exist; sweepings, cattle litter and every other refuse lie about; rank vegetation surrounds many houses; the cattle are not properly housed; cowdung is accumulated for manure. In some villages, however, cowdung is dried and utilized as fuel. *Roads and Drainage.*—Thoroughfares are deficient in many villages, there being only a few cart tracks. The natural drainage is not sufficiently free, and there are no drains by the sides of the roads. *Water-supply.*—This is taken from rivers, bhils, khals, or tanks. The tanks are as highly polluted as in Ranaghat. Those in Narapatipara were found stinking from *uri dāl*, a vegetation which has the property of rendering the water turbid. A good tank, containing wholesome water, was seen at village Kulia. It had been recently excavated. The khals dry up in the dry season, and then the people dig in their beds for water; but the pauper dead are cast into them as well as into the rivers. The river Jamuna has silted up, and is overgrown with vegetation. Villages Ghunghunia and Shealdanga suffer most for want of water during the dry season. In villages Rowtari there is no tank, and the people consequently use the water of the hollows for all domestic purposes. The water of the Boysha bhil below villages Shealdanga and Ghosepara, and of the Jamuna river below Shealdanga is commonly drank. *Jute.*—This is steeped in several places in hollows, tanks, bhils, and in the Jumuna river. The use of jute-steeped water is believed to have caused fever in village Narapatipara. *General health* was found to be prominently bad in villages Kawapara, Kulia, Katagunga and Gatrapur, owing principally to the prevalence of fever. At Kawapara the fever of former times has already much reduced the population, and at Kulia this malady as well as cholera had a similar effect. Here a large number of pilgrims and visitors assemble annually in Augrahan (November) at the time of the Chait-anna or Thakurbari mela. **SANTIPUR thana.**—This is a small thana of 60 villages. It is on a lower level than thana Kotwali, but a little higher than Ranaghat. *Dwellings and Domestic cleansing.*—The houses are crowded together in several villages. They are kept tolerably clean, and their floors are free from damp; but rubbish, litter and other refuse are accumulated in the main

pathways. The housing of cattle is fairly well looked after. Bamboo clumps and much jungle and rank vegetation are common. *Roads and Drainage.*—There is one high road from Santipore to Kishnaghur, but village communications and thoroughfares are wanting. The Drainage is pretty fair; and there is a long jole which serves the purposes of a drain. *Water-supply* is obtained from the Bhagiruthi or Hughli river, Nijhone khal, the Khalshi bhil, and tanks which are numerous. The khal is full of dāl grass and moss. The bhil contains good water. Of the tanks, the one at Panchpota, which has been recently excavated, contains good water, and the dighi at Gobindpur is also good, but is surrounded with jungle. The rest of the tanks are in bad condition, unprotected from surface drainage, muddy and full of pana and decaying vegetation. There are also many foul holes amidst bamboo clumps. *Disposal of the dead.*—There is no fixed burial-ground for Mahomedans, and no arrangements for the disposal of dead cattle. **KALUPOLE thana.**—The soil of this thana is alluvial along the banks of the Itchamatti, and clayey and not very fertile in the other parts. There are two or three chur villages in it. *Dwellings and Domestic cleansing.*—The houses are not crowded together, but are deficient in internal ventilation. Bamboo clumps, overhanging hollows and pathways, abound, and rank vegetation, luxuriant from excessive rainfall, is common. Busti cleansing is not properly attended to, and the gowalla bustis are invariably the most filthy. There is no arrangement for the removal of household sweepings, refuse and litter: they are thrown anywhere or accumulated on pathways. In Krishnapur there are pits containing decomposing cow-dung, and the same is to be met with in heaps at Hatdaha and Chandpur. Village Ujjulpur is honey-combed with hollows containing foul water, and bamboo branches overhang them. Defecation is carried on on the public pathways, which are also bestrewn with cattle bones. *Roads and Drainage.*—Village roads are scarce. The drainage is defective. Rain-water stagnates on the village pathways, being obstructed in its outflow, particularly at Akandaberia and Chandpur. A jole on the west of Saraberia serves the purposes of a drain, and there is also much water-logging. *Water-supply.*—This is obtained chiefly from the river Itchamatti and its offshoots, from bhils, the jole at Saraberia, and a few tanks. The Itchamatti is almost dry in summer, and is covered with weeds and noxious plants. The water of the bhils is impure during the dry season, and the Bhoynah bhil at Akandaberia is subject to contamination in various ways. The tanks have silted up. There is, however, a good dighi in Kaharpara, but twigs of trees are placed in it to catch fish. *Disposal of the dead.*—The pauper dead are sometimes cast into the Itchamatti river, and the Mahomedans inter their dead in the compounds of their houses. *Jute* is steeped in hollows at Akandaberia and Balkedanga. *General health* was rather worse than in the other thanas. There was an increase of fever in the jungly villages. Village Akandaberia is a markedly malarious locality. Cholera, in virulent form, appeared in April in Chandpur. **DAMURHUDA thana.**—This thana is situated on a lower level than Kalupole, but higher than Nobinnuggar. The Howli is the only river in it, and it is embanked against flooding between Paranpur and Loknathpur. *Dwellings and Domestic cleansing.*—The arrangements under this head are much the same as in Kalupole, except that it is not so unclean as that thana. The ditch along the Railway and behind the bazar at Ramnagar was found full of filth and decomposing vegetable and animal refuse. In a few villages cattle dung is dried and utilised as fuel. *Roads and Drainage.*—There are no village roads, excepting cart tracks. There is a public pucca road from the Ramnagar Railway station to Kotechandpur, but it was breached in the preceding year and has not been repaired. There are no trees for shade on this road. The natural drainage is pretty free, but the Howli embankment retards drainage of rain-water. The Naljore jole is a sort of outlet for the drainage of the villages situated about it. The cart tracks in the villages serve the purposes of drains. *Water-supply.*—Water is taken from the river Howli, bhils, and wells. Tanks are rare. The bhil behind Dadpatila has deteriorated, and its water is unfit for drinking. The best well is at Paranpur. In the same village there is a zemindari tank which has silted up, and contains water rendered unwholesome from decaying vegetation. *Disposal of the dead.*—Interments take place in the compounds of houses or in lands adjoining the villages, and the pauper dead are generally thrown

into the river Howli. *Jute-steeping* is carried on extensively in Sandrajole on the south of Ramnagar. *General health* was good on the whole.* ALUMDANGA thana.—This thana is situated on a higher plain than the two above-mentioned. The soil is generally clayey and not very retentive of moisture, but consists, along the Howli river, of an admixture of clay and sand. There are several chur villages in this thana. *Dwellings and Domestic cleansing*.—The houses are built widely apart from each other, and their floors are not damp. The villages are, with few exceptions, pretty free from jungle, but bamboo clumps are plentiful in the vilages along the Howli river. Heaps of sweepings and refuse are to be met with. Defecation on the pathways, passages, the sides of tanks, and in the dry bed of the river Howli is very common. On the whole, however, it was observed that domestic cleansing is somewhat better attended to in this than in several other thanas. *Roads and Drainage*.—The roads are inadequate, and even thoroughfares are wanting, or are narrow in many villages. The few roads which exist are not planted with trees for shade. The Chhogoria and the Kanchakata roads were breached by the floods. Drainage is tolerably free on the whole ; but Ailhoria, Gopaldanga and Sinduriakoti are not well drained, and many villages are water-logged, especially the chur villages. *Water-supply* is taken from the river Howli, the Bhantrye nuddi, Chahla bhil, and from tanks. There are only a few wells. The nuddi, having no connection with any water-course, is rapidly polluted, and its water becomes unwholesome during the dry season. The bhil is rendered unwholesome from decomposing vegetation. The tanks have silted up and are covered with moss, weeds and other vegetation. At Puntimari, want of water is much felt, and a tank is very much needed at Pultadanga. *Disposal of the dead*.—The pauper dead are generally buried or burned at Government expense, but bones and skulls were seen on the road leading to Kanjuria Koti. *General health* was on the whole good, and better than during the last two years ; but village Khoskarora suffered pre-eminently from fever and cholera. JIBANNAGAR thana is situated on the same level as Alumdanga. The river Itchamatti forms its boundary, and the Bhyrub is the only stream which flows through it. There are no chur villages her. There is a barren tract of land between Sanirhuda and Dumuria, and a marshy bhil extends from Uthati to Chandpur. *Dwellings and Domestic cleansing*.—The houses are not crowded together, but they are wanting in interior ventilation. Jungle is rare, except at Bajirdia. Domestic cleansing is fairly attended to. Defecation takes place on the village passages, on the Ramnagar road, and amidst the bamboo clumps at Dehati. The mode of keeping cattle generally is objectionable. *Roads and Drainage*.—The Ramnagar road is the only convenient thoroughfare, and the villages are very deficient in pathways. The drainage is defective in some parts. The drain in Dumuria has been obstructed with silt deposits, and is covered with luxuriant vegetation, and this village and Andulberia and Hajridia are water-logged. *Water-supply* is had from the river Bhyrub, khals, bhils, bandhis, joles and tanks. The water of the river is discolored at spring time owing to its mouth having been obstructed by the Railroad at Joynugger, where the bridge is too small to admit of free flow of water. The bhils are used as public latrines and in other objectionable ways. The khal on the west of Aktiarpur has silted up and remains dry during the greater portion of the year, and is fouled with fœces, and the Kajla bhil is full of vegetation. The water of the Saraberia jole is impure. There are, very few tanks, and they are generally shallow, and the only good ones are, one in the indigo factory at Dehati, and another at Dumuria. The former is well protected from pollution, but the latter receives surface drainage through an inlet. *Disposal of the dead*.—There is no fixed place for the interment of the Mahomedan dead, and no arrangement for the disposal of dead cattle. *General health* was, on the whole, good. The only places where cholera prevailed with marked severity was village Andulberia and its neighbourhood. The lime-kilns in this village are said to affect its health. KOTWALI thana is situated on a somewhat too high level to be affected by floods. *Dwellings and Domestic cleansing*.—The houses are scattered and widely apart from each other, and many are enclosed with hedges. Jungle is comparatively rare, except in a few villages. Bamboo clumps are plentiful at Durgapur, Mohishnanger and Dogachi. Domestic cleansing is, with few exceptions, better attended to, but household refuse is not

properly disposed of. Hollows, containing vegetable and animal impurities and stagnant water, and manure pits and dung heaps are to be met with. The chowkidars engaged to look after the Dignager bazar do not attend to its cleanliness. *Roads and Drainage.*—This thana is better provided with roads. The natural drainage is defective. Water-logging takes place in a large tract of country west of Harlichola lying between the Kauchi road (intended for the railway from Ranaghat to Kishnaghur) and the Santipore road. This road obstructs the drainage of Harlichola, which can be rectified by constructing a large pucca culvert at the point of obstruction. A large jole and the Bagdihi khal drain the Dignager side of this thana. Water stagnates in the Dagachi road and in the road between Nagurghati and Dagachi. *Water-supply* is taken from the rivers Khoria, Anjona, Bhagiruthi and Julungi, from the Gapaye nuddi, and from khals, tanks, joles and wells. The river Anjona has silted up very much. Many of the tanks have also silted up, are covered with vegetation, are highly polluted, particularly by bathing of cattle in them, and dry up in summer. The Dignager dighi (tank) is densely covered with jungle, and its banks are used as a public latrine. The Mahatpur dighi is also beset with jungle and is full of aquatic plants. A tank has been reclaimed at Hatichota. The people in village Bhatjangha suffer much from want of water during the dry season. *Disposal of the dead.*—The pauper dead are thrown into the Baman below Hatichota, and there exist no arrangements for the disposal of dead cattle. *General health.*—In this thanah fever has increased from the last three years, and it was persistently prevalent this year. It is believed to have reduced the population. The polluted condition of the silted-up Anjoni river is said to cause the fever. *KISSENGANJ* thana is situated on a somewhat low level, and is subject to flooding. The soil is alluvial with alternations of impermeable clay. There are some uncultivated tracts. *Dwellings and Domestic cleansing.*—The former is much the same as in Kotwali. Jungle exists here and there. Domestic cleansing is not properly attended to. The house sweepings and refuse are thrown anywhere, and defecation is carried on on the sides of the pathways. *Roads and Drainage.*—There are some three or four roads, but they are devoid of trees. The drainage is pretty free on the whole, but water-logging occurs in some places during the rains. *Water-supply* is taken from the rivers Itchamutti and Churni and from bhils and khals. Tanks are very rare. The Sundey and Malshagari bhils are covered with aquatic plants—*nasidan* and *dul*—which have imparted a reddish tinge to the water. *Disposal of the dead.*—There is no fixed place for burying; the Bhysnubs throw their dead into the river, and the pauper dead are also treated similarly. There is no arrangement also for the disposal of dead animals. *Jute.*—This is largely steeped in the Paltu khal. *General health.*—Malarious fever of past years is said to have reduced the population of this thana. Cholera prevailed with some severity in some villages this year. There is a marshy bhil between Shamnagar and Ghugragachi which is suspected to cause sickness. *CHAPRA* thana is situated on a comparatively low level, and is consequently accessible to floods. *Dwellings and Domestic cleansing.*—The dwellings are much the same as in Kissen-ganj, but this thana is free from jungle, and bamboo clumps are rare. Domestic cleansing is very much neglected. There are many gowalla villages, where the cow-houses and their surroundings are very unclean, and the stench from them is abominable. There are pits and hollows in several villages, which are full of rubbish, litter, &c., and some contain human excreta, the Dumuria village being honeycombed with these excavations. *Roads and Drainage.*—The roads are very few, and thoroughfares are wanting in several large villages. Many of the villages are badly drained. The embankment of the Kuli khal obstructs the drainage of the villages in its neighbourhood. *Water-supply.*—The sources of water-supply are the same as in Kissen-ganj thana. The khals in this thana are the Kaligangni, Korakati, Kuli and Poldi. The first is very muddy, and the banks of the Poldi khal are resorted to for defecation, particularly near village Dangni, and its water is greenish from vegetable decomposition, and that of the Kunkuradaha bhil contains animalcules. Of the bhils, the Kalinga is overgrown with moss and aquatic plants, and its bed is muddy, and the Imandaha and Dharumhata are loaded with vegetation; but the Dudkhola bhil contains clean and wholesome water. Most of the khals and bhils dry up on the approach

of summer, when the people suffer much for want of water. Of the tanks, the Nittye Nundi dighi is covered with pana, and its water is very muddy. *Disposal of the dead.*—The arrangements under this head are exactly the same as in Kissenganj. *General health.*—The remarks about fever in the Kissenganj thana also apply to this thana. Cholera prevailed in some villages, and is attributed to importation by a pilgrim from Santipore, where the Rashgunga mēla was held in Kartic (October). The population of village Gantra is said to have been reduced by the prevalence in it of cholera and fever during the past three years. The large number of houses in ruins in it is indicative of this. NAKASHIPARA thana is situated on a low level, and is very subject to floods. It is free from jungle, jhils and marshes. The soil consists of soft clay and *polimatti* from the frequency of the inundations, and retains moisture. There are uncultivated lands, mostly around village Balkumri. *Dwellings and Domestic cleansing.*—Much the same as in Chagdah under both heads. The gowala and moochi bustis are extremely filthy; but it is remarkable that household refuse is used in some villages in filling up holes in the neighbourhood of the houses. The slopes and sides of the Khoria river and of the khals, and gardens and village pathways are resorted to for defecation. There are many bad water-holes. *Roads and Drainage.*—Road communication is insufficient. The drainage is defective, the ground having no slope for the carrying off of storm-water. *Water-supply* is taken from the Khoria river and from bhils, khals and tanks. The river and khals are, as above stated, polluted by defecation, and at Bohergachi the tanks are similarly treated. Most of the tanks have silted up. The people in Kalibach and Barasirinlic suffer much for want of water during the dry season, and then they have to dig the beds of tanks and hollows to meet the want. *Disposal of the dead.*—The Hindu dead are taken to Goshpara for cremation. No arrangements have been made for the disposal of the pauper dead and dead cattle, and the skeletons and bones which were seen in the fields and passages of Shibpur and Dhananjoypur, verify this fact. *General health.*—This thana is believed to be less malarious than thanas Kissengunge and Chapra. There was less fever, the result of the inundations of 1885; but cholera prevailed very much, and was more fatal than during the preceding three or four years. It was remarked that the people are deserting this thana for want of food-grains. KALIGUNGE thana is low-lying and subject to great inundation, causing the people, when it occurs, to live on bamboo *machans*. Villages Kathuria, Chuck and Imampur are being encroached upon by the Bhagiruthi river. A bund is required on the Murkuli khal to protect a number of villages from the floods. *Dwellings and Domestic cleansing.*—Much the same as in thana Nakasipara. There is no heavy jungle in the thana, but in some of its villages the bamboo is closely planted. House-sweepings and refuse are accumulated in the compounds of, or before dwellings, and on pathways, and huge heaps of cowdung were seen on the pathways of Akundaberia, and manure pits in Chhutipara and Bara Itna. Defecation is carried on on thoroughfares and on the slopes and silted-up parts of the Bhagiruthi river. *Roads and Drainage.*—Want of roads is also felt in this thana. Akundaberia and Imampur are much water-logged, and these villages and Bhargabuntapur and Gobra require to be provided with roads very much. The drainage in this thana is better than in Nakashipara thana. The outfall is towards the Ganges, and is pretty free. The cart track at Gobra and the main passage at Naoda have been largely and dangerously breached by the floods. *Water-supply.*—This is obtained from the river Ganges or Bhagiruthi, and from bhils, khals, baors and tanks. The bhils and tanks are covered with weeds and vegetation, and a few have silted up, and most of them dry up in the hot weather. *Disposal of the dead.*—The Hindus cremate on the banks of the Bhagiruthi, the Mahomedans bury within house enclosures, and dead infants are thrown into the river. The only places where *jute* is steeped to an extent likely to cause sickness are the hollows in Nondu. *General health* was better than last year, except in a few villages. It is said that the people of this thana are deserting their houses owing to the hardships caused by the inundations and scarcity of food, the harvest of the past three years having been very deficient. MEHERPUR thana.—This thana is situated on a low level. Portions of it lie below the high water level of its rivers Bhyrub,

Khoria and Howli. It is consequently subject to inundation. *Dwellings and Domestic cleansing.*—In general the houses are constructed of the usual materials; but those on the borders of the rivers are built of frail and inflammable materials. Jungle abounds in many villages, but some of those lying along the Bhyrub have been cleared of it by the indigo planters. Domestic cleansing is somewhat better cared for than is generally the case. The sweepings and refuse are utilised in filling up hollows in the homesteads, and consequently unhealthy excavations are comparatively few in this thana, but some of the hollows are overhung with bamboos. The habits of the people are determined by their caste and the occupation they follow, but the *Malas* are filthy, and the gowalla bustees in Jhowberia and Subadpur are very unclean. Defecation along the banks of the Bhyrub and on the village pathways and public roads is very common, particularly in Dariapur; but here cattle dung and litter are used as fuel. *Roads and Drainage.*—There are very few village roads, and pathways are also wanting in many villages. Some of the public roads require repairs and are destitute of trees. The sudder road from Monohurpur is very low at Manakhali near the Ferry Ghât, and therefore not safe for cart traffic. The natural drainage is pretty free, and its outfall is to the Bhyrub and Khoria rivers; but many villages get water-logged during the rains. *Water-supply* is had from the Bhyrub, Howli and Khoria rivers, and from bhils, khals and dobas. There are very few tanks. The Bhyrub is covered with dam, patikochori, patashavli and other vegetation. Nevertheless its water is clean and wholesome. Its current is, however, not free, and this can be remedied by opening up its junction with the Khoria river at Kuchnidanga, and also the other end to the Howli river below Shubulpur, by which means, it is said, it can be kept free of vegetable and other impurities. The bhils are polluted by bathing and washing of cattle. Defecation is carried on on the banks of the Kajli khal. Many villages suffer for want of water during the rains. *Disposal of the dead.*—The pauper dead are cast into the Bhyrub river, and dead cattle are thrown on waste land. There is very little Jute-steeping in this thana, and it is gratifying to find that this practice in the Bhyrub river has been stopped by the police since the last two years. *General health*—Fever was considerably less, but cholera prevailed severely in several villages. It is noted that in some parts of the district, particularly at Chandbil, the people have deserted their homes owing to scarcity of food supplies. GANGNI thana is situated on raised ground, and is consequently not subject to much flooding generally. *Dwellings and Domestic cleansing.*—The houses are not crowded together, but are deficient, as elsewhere, in internal ventilation. Their floors, which as well as the walls are leaped with earth, are damp. Jungle exists in the villages along the Bhyrub river, and bamboo clumps are rare, except in village Kutubpur, where they are plentiful. Hollows and excavations are few. All the other arrangements under this head are the same as in Meherpur. *Roads and Drainage.*—Roads are much wanted in this thana, and the existing ones have not been repaired. The natural drainage, which is into the Bhyrub river and a jole, is pretty free; but some villages are water-logged. *Water-supply.*—The rivers Bhyrub, Itchamutti and Howli, dobas and tanks form the sources. In Gouraberia a hollow near the bazar and the zemindari kutchurry has been enlarged into a tank. The tanks are very few and are polluted in many ways. The Bhyrub and Itchamutti have silted up to a great extent, and the banks of the former are used as a public latrine, particularly in Kathuli. In the hot season, when water is scarce, people dig for it into the dry bed of the bhils, particularly in Radhagobindpur and Burra Ramchandpur. *Disposal of the dead.*—The same as in Meherpur. *General health.*—On the whole, good. This thana is markedly free from malaria in comparison with the other thanas. Rice was plentiful after three years' scarcity. *Karimpur* thana is situated on a low level and subject to much flooding. *Dwellings and Domestic cleansing.*—Same as in Meherpur, but it is comparatively free from jungle. *Water-supply* is obtained chiefly from the Bhyrub, the Hognagun khal, the Dhankhali bil, which is the tail end of Bhyrub, the Chakla bil and joles. Tanks and wells are very rare. The bhils and khals have silted up, and are covered with vegetation, and the joles are filthy. In some villages much water difficulty is felt. *General health.*—Malarious fever prevailed to a greater extent than in Gangni, but with abated severity in comparison

with its incidence during the preceding year—the result of the inundations. **TEPATTA** thana is situated on high ground. The soil is impregnated with alkaline salts from which saltpetre is extracted, which is mostly done in Shalmari. *Dwellings and Domestic cleansing.*—The houses are built on raised ground. Domestic cleansing is determined by the caste and habits of the people. There are many hollows and ditches surrounded with bamboos, and several of them contained fæces. The bustis generally and the road from Nandanpur to Shalmari were similarly defiled, and in the latter village bones and skeletons of cattle were seen. Some of the hollows swarmed with infusoria. *Roads and Drainage.*—Roads are a desideratum in this thana, and even the large village Shalmari has no road. The natural drainage is good. *Water-supply.*—This is taken from the Bhyrūb and Khorīa rivers and the Peerpur and Abrah bhils. Wells are few and tanks rare. The bhils dry up in spring. The water in hollows is also used. **KUSHTEA** thana.—This is a small thana consisting of 22 villages. It is situated on comparatively high ground, and is not affected by floods. It contains no marshes or jungle, but bamboos are plentiful. The soil is partly alluvial and partly clay and permeable to water, and the thana is free from humidity. There are some chur villages in it. *Dwellings and Domestic cleansing.*—The houses are unventilated, and their floors are damp, particularly of those situated along the Pudma river. The Mussulman villages are unclean, domestic cleansing not being observed. The cattle sheds are filthy. *Roads and Drainage.*—There are only two public roads in the thana, and none in any village. The drainage is free, with the outfall into the Gorai river and Champigachi bhil. *Water-supply* is had from the rivers Pudma and Gorai and the Kalikangni doba which opens from the Gorai. There are a few wells, but no tanks. The doba is polluted by cattle bathing, and dries up in summer. The rivers contain good water throughout the year. *Disposal of the dead.*—The Hindus cremate on the banks of the Pudma, but the Mahomedans bury in their dwelling-houses. The casting of the pauper dead into the river has been stopped. *General health* was good throughout the year. **KUMARKHALI** thana is situated on comparatively low ground, and is much flooded every year by the overflow of the Gorai and Pudma, particularly the extensive tract of land on the north of the Eastern Bengal Railway line. No embankment is proof against the torrents of the latter river. The Faridpur district lies on its east and the Jessore district on the south. Bamboo jungles are to be seen in this thana. The climate is moist, and the soil is for the most part alluvial and permeable to water. There are a few chur villages in this thana. *Dwellings and Domestic cleansing.*—The houses are thinly scattered. All the other arrangements under this head are the same as in the Kushtea thana, excepting that the floors of the houses are more damp, and domestic cleansing less cared for. *Roads and Drainage.*—There are four roads in this thana, of which the one along the Pudma, leading to the Pubna district, has been breached by the floods at Balkia, where a pucca bridge is now being constructed. In many villages thoroughfares are wanting. The natural drainage is defective, the ground slope towards the rivers being insufficient. There are no side-drains to the roads, and several villages are water-logged. No water stagnates in the chur villages. *Water-supply* is had from the rivers Pudma and Gorai and from bhils, dobas and wells. Tanks are rare. The doba at Degul Hât has been rendered abominably filthy from cattle washings, placing of twigs of trees and plants in it for fishing, fluid refuse and other pollutions. *Disposal of the dead.*—The same as in the Kushtea thana. *Jute-steeping* is extensively carried on in this thana, particularly in villages Kamalapore, Narainpore, Akliarpore, Khakarbari, and Puddobila. Bhils and hollows are used for the purpose. Some restrictions have been put on the practice this year by not allowing it to be carried on amidst habitations and in the heart of the villages. *General health* was better than in the Kushtea thana, and this is ascribed to the effect of the inundations.

203. **MUNICIPAL INSPECTIONS.**—**Nuddea** DISTRICT—**RANAGHAT TOWN**—*Drainage.*—The natural drainage of this town is towards the river Churni on the west, the Bashko khal on the north, and the Hangor khal in the south; but its eastern portion is not well drained, and to remedy this a scheme of drainage with an outfall towards the water-courses is under consideration. Its soil consists of a mixture of clay and sand, retentive of moisture to a certain

extent. *Water-supply*.—This is taken from the rivers, khals, three municipal tanks and four private ones, and from wells. The private tanks have silted up and are polluted in many ways, and one of them is covered with pana and rank vegetation. The municipal tanks receive surface drainage of the surrounding ground through pucca drains. *Conservancy*.—There are no public latrines, and the river and khal sides are resorted to for defæcation. The Barabazar is kept in a very unclean condition, and cow-house refuse obstructs its drains. BEERNUGGAR or WOOLA is a rural town now considerably reduced in population owing to the prevalence of malarious fever in it from 1857. *Water-supply* is obtained from the Baromeshia and Banchurah khals, the Mathura and Dahatia bhils, and several tanks. Of the tanks, the Nuddea Rajah's dighi is the best, and contains wholesome water, but almost all the rest have silted up, are filthy with refuse, weeds and rank vegetation, and surrounded by jungle. Six of these have, however, been reclaimed recently, and the Moyrapukar tank, a disputed property, is about to be taken up by the Municipality on account of its "abominably" insanitary condition. *Domestic cleansing*.—The town abounds in dense jungle, particularly at Mustaphipara, where wolves and wild boars have taken lodgement. Its notoriously malarious condition for about the last 30 years is attributed to the jungles. There are no public latrines, and the ditches and fields are resorted to for defæcation. *Disposal of the dead*.—Dead cattle are thrown on waste lands and gardens, and no arrangement exists for the disposal of the pauper dead. *Drainage*.—This is very defective. The existing drainage discharges into the hollows and tanks in the town. This town spent the money allotted for roads on education, and the Assistant Surgeon is correct in observing that "the saving of lives is more important than the advancement of learning." CHAGDAH was created a Municipality only in July 1886. The outcry is general among most of its inhabitants, the majority of whom consists of day labourers, cultivators, petty dealers and moodis, that its establishment as a Municipality has told severely on their means. The villages comprised in it, which were before, when the main stream of the Ganges river ran through them, in a flourishing state in a commercial point of view, are now in a depressed condition. *Water-supply*.—This is taken from the Bhagiruthi or Chokro-dhowa river, tanks, and the Henria khal. The tanks, one of which, belongs to the Municipality, are polluted with vegetation. There are also two municipal wells. *Drainage*.—There are no drains. The town is subject to much flooding, and several parts of it are water-logged. *Roads*.—There is one pucca road from the Railway station to the Municipal Office and 18 kutcha ones. Most of these roads are out of repair. *Jute-steeping* is carried on to a great extent in Palpara. SANTIPORE town is situated on the banks of the river Hughli, and is the largest in the district. It forms an important commercial centre, and is noted principally for the manufacture of cloth. The soil is alluvial and absorbs rain-water. *Water-supply* is procured from the Bhagiruthi river, the Nejhere and Haripur khals, tanks and wells. The supply from the khals and the wells is, on the whole, bad. All the tanks, excepting one, called the Chorpukur, have deteriorated. When a tank is excavated in this town, the water oozes out before the proper depth has been reached, and consequently the tanks are shallow and soon become polluted. The Chorpukur tank, formerly a notoriously bad one, has been re-excavated and thoroughly reclaimed, its sides raised, a protective railing put up, and it has been reserved for drinking purposes. The Talpukur tank at Notunhatpara in the gurbh portion of the town is fit for no use, and its sides are freely resorted to for defæcation. Dead cattle are generally thrown into the khals. *Drainage*.—The natural drainage is towards the Ganges or Bhagiruthi on the south, and the Nejhere khal on the west. There is no systematic drainage yet, but a pucca drain has been constructed from Gabhagar road at Dariorapara to Barabagar. It discharges now into the Kanapukur, but it is intended to carry the outlet to the river when a complete drainage scheme is taken in hand. To protect the town from the floods of the Ganges, the strand road requires to be raised and provided with a sluice which will also serve as an outlet for rain water. *Conservancy*.—The arrangements under this head are very bad. There are no public latrines. The well-to-do have well-privies, some of which are full to the brim. The generality of the people resort for defæcation to the fields, gardens, waste lands, sides of tanks and khals, &c. *Disposal of the*

dead.—About 24 bigahs of land have been purchased by the Municipality at the north-east corner of the town for the interment of the Mahomedan and Christian dead, and the pauper dead are cremated on the river-side by the Municipality. *General health*.—It was noticed that the inundations of 1885 had the effect of abating the prevalent fever considerably and of improving health generally. Cholera was present from the 15th November to the 25th December, principally in the guruh portion of the town. NOVADIVIPA town is a regular islet, bounded on the east and north by the Ganges, on the west and south by the Polta khal, and on the south-east by the Manipuri khal. It is protected from floods by an embankment around it. This embankment was breached in several places during the great rising of the rivers in 1885, and the expense incurred in repairing the breaches impoverished the Municipality. Novadivipa is renowned for Brahmanical lore, and is inhabited mostly by pundits and Sanskrit scholars who have no other calling, hence the impecuniosity of the town. *Conservancy*.—This is not properly attended to for want of funds. Refuse and rubbish remain unremoved from the roads for days together. The portion of the town called Koom-Bonishara abounds in jungle, which in some places is very dense. *Roads*.—These are, with one exception, all kutcha. *Drainage*.—Drains are altogether wanting, and the maintenance of the embankment above referred to absorbs a large amount of the municipal income which might otherwise have been expended on drainage, roads and conservancy. It is suggested to make over the maintenance of this embankment to the zemindar of the town. *Water-supply* is taken from tanks. Naturally they contain good water, but owing to surface drainage finding its way into them, to deposits of silt, and to improper usage, they have become highly contaminated. *Disposal of the dead*.—There are two burning ghâts on the banks of the Ganges for the Hindus, and a field at the north of the town for the interment of the Mahomedan dead, but no arrangements exist for the disposal of the pauper dead and dead cattle. *Jute* is largely steeped in the Pulta khal, and is said to be a source of sickness. *General health* is stated to have improved by the late inundations. MEHERPORE town is situated on the banks of the Bhyrub river. *Conservancy*.—The town proper is surrounded with jungle, which also exists in other parts, particularly in Shaikpara. No arrangements have been made for surface cleansings, and yet the roads are free from filth, because the inhabitants have been made to throw all the house refuse, &c., into the hollows within their premises. There are no public latrines, but it is proposed to provide two. Defecation is carried on outside the bustis in gardens, waste lands, and on the banks of the Bhyrub. *Water-supply* is taken from the Bhyrub, one municipal tank, four or five private tanks, and wells. The municipal tank is surrounded by a raised mound, and a watch is set over it to protect it from pollution, but the other tanks are full of decomposing vegetation, and their water is bad. The Bhyrub river is covered with vegetation and fouled in the manner above mentioned. *Drainage*.—The drains consist of kutcha shallow surface channels, and they are obstructed near houses. KUSHTEA town is situated on the banks of the river Gorai, and comprises 10 villages. *Roads and Drainage* are sufficient and in good order. The drainage outfall is into the Gorai river which separates this town from Kumarkhali town. *Conservancy*.—The arrangements under this head are not satisfactory. Surface cleansing is not properly attended to. The roads are not properly cleaned, but strict prohibition exists against defiling them by the commission of nuisances. The household sweepings and refuse are either utilized in filling up hollows within the homesteads, or are scattered thinly on private waste lands. There is a public latrine constructed on a pucca pavement, without any roof or shed. It contains 10 or 12 compartments, and the accommodation in it for females is separate from that for males. There are also private privies constructed of bamboo machans or wooden posts, which are cleaned daily by the municipal mehters. *Water-supply* is taken from the Gorai river and its old dead bed. *Disposal of the dead*.—The Hindu dead are cremated on a maidan at the west of the Gorai close to the bazar. There is a fixed burial-place for the Mahomedans. The pauper dead are buried by the municipal mehters.

204. **Murshidabad DISTRICT**—GENERAL OBSERVATIONS RELATING TO THE DISTRICT AS A WHOLE.—This district is situated on a higher level than that of Nuddea, but much lower than that of Birbhum. It is watered by the rivers

Bhagiruthi, Pudma, Bhyrub, Jelinghi and Moyurakkhi. Flooding is great, and its degree determines the variations of climate in the district, the fertility or barrenness of its soil, and the populous or deserted condition of its villages. The district is destitute of hills, but is covered in some parts with dense jungle. Its soil varies in different parts, as will be shown hereinafter. Generally it has a brownish tinge, which is apparent from the house floors, which are smeared with it mixed with water. There are a few low-lying marshes. The climate is generally hot and dry, and the atmosphere is charged with aqueous vapours during the rainy season. This district is less affected by malaria than Nuddea, but is more subject to cholera than that district. There are more chur villages here than in any other district in the Metropolitan Circles, and the Pudma and Bhagiruthi cause more landslips than in Nuddea, where they are common. It is gratifying to find that in most villages cowdung is dried and utilized as fuel instead of being accumulated in rotting heaps. *Jute* is sparingly cultivated, but the cultivation of the mulberry tree for feeding silkworms is very common, and is carried on a greater scale than in Birbhum.

205. OBSERVATIONS MADE AT EACH THANA IN THE **Murshidabad** DISTRICT.—**BHUGWANGOLA** thana is situated on a lower level than the thanas which surround it. The soil is alluvial in the deara villages and sandy clay in other parts, the former preponderating. Jungle and bamboo clumps are few. The embankment in Barathakur gave way during the inundation of 1885, and caused considerable damage to this and the adjoining villages. There are several chur villages in this thana. *Dwellings and Domestic cleansing.*—The houses are generally built apart from each other, admitting of free perflation of air. While they are constructed of the ordinary materials generally, in the chur villages they consist of mere hovels of mats, reeds and bamboos. Cattle litter and other house refuse are thrown about in the compounds and around the houses, and there are a good many unwholesome hollows which in some places contain fæces. Defæcation on the roads and pathways and on the banks of the Bhyrub is very common, particularly in Akrigunj bazar, where also earthen pots and other rubbish were found lying about. There were no manure pits and heaps in Dangopara, Bazitpur, Baraberia, and Khudapara; but in the last-named village, and also in Mahomedpur, bones and skeletons of cattle were found lying on waste lands. This was also the case on the Maricha road. *Roads and Drainage.*—Roads are insufficient in many large villages, and in many the pathways are low and require raising. Trees are required to be planted on the Akrigunj road. The natural drainage is defective, and artificial drains are greatly wanted. Many villages are water-logged. *Water-supply* is obtained from the rivers Pudma, Bhyrub and Bhagiruthi, the Churkati nulla, the Barathakur and Kesaipore khals, the Nara jole, and tanks and wells. The Bhyrub becomes almost dry in the hot season at Khoribora, and animalcules were found in the remaining decomposing water. The tanks are covered with rotting vegetation, and some of them are beset with jungle. The water of some of the wells becomes brackish in summer. Difficulty is felt for water in the villages along the Bhagiruthi river, excepting on its “rash” side, and in Durgapore, Bhawanipore, Khadapara and Mowakhana. In the last-named village the people dig the sandy soil to supply this want. *Disposal of the dead.*—The Hindus burn their dead on the banks of the Bhyrub and Bhagiruthi rivers; but there is no fixed place for the interment of the Mahomedan dead, nor any arrangements with regard to the pauper dead. *Jute-steeping* is largely carried on in the offshoot of the Barathakur khal below Baraberia, and in hollows in Shibnagar and Bhawanipore. Hemp also is cultivated in several villages. These processes are said to increase the prevalence of sickness. *General health.*—Village Dangapara suffered very severely from fever, and cholera appeared in severe form in Baraberia, its probable cause being put down to the use of water polluted by the washing of cattle in it. The general prevalence of cholera and bowel-complaints in the district is referred to water contaminated by filthy washings, plant-steeping for catching fish, and defæcation along the banks of the Bhyrub. **ASANPORE** thana is limited in extent, and is more subject to flooding by the Bhagiruthi than the thanas on the other side of that river. With few exceptions, jungle and bamboo clumps are rare in it, but there is a swamp in Sundarbagh. There are only two churs of alluvial formation in this thana. *Dwellings and Domestic cleansing.*—The huts

or hovels which compose the dwellings in this thana are situated apart from each other, separated by waste lands or lands teeming with rank vegetation. Manure heaps are to be seen on the main pathways in Mahipur. *Roads and Drainage*.—This thana is better provided with roads, but they have no side-drains, and those along the Bhagiruthi were ankle deep in dust. *Water-supply* is had from the Bhagiruthi river, a bhill, and a few tanks. The bhill water has deteriorated and become discoloured. There is a good tank, containing wholesome water, in Sundarbagh, but the tank in Chhowai is overgrown with vegetation, and its water is muddy. The inhabitants of Lalkati suffer much from want of water. *Disposal of the dead*.—The Hindus cremate on the banks of the Bhagiruthi. In other respects the arrangements under this head are the same as in Bhagwangola. **SHAHANAGAR thana.**—*Dwellings and Domestic cleansing*.—The houses are of the ordinary description. They are open to perfusion of air, and free from jungle. Defecation on the banks of the Gobra nullah is very common. The other arrangements under this head are the same as in Bhagwangola. *Roads and Drainage* are better looked after here than in the other thanas. Besides the City Murshidabad road, there are one pucca and three or four kutcha roads. The drainage is pretty free, and its outfall is into the Bhagiruthi. *Water-supply* is taken from the Bhagiruthi river, the Gobra nullah, and wells. There are no tanks. The water in both the water-courses is wholesome. *General health* was somewhat impaired by fever, which was conspicuously fatal in Prosadpur owing to the jungle it contains. **DOULATBAZAR thana** lies along the Bhagiruthi river opposite to the two thanas of Gorabazar and Sujaganj. It is situated on somewhat high ground, and is little affected by floods. The soil consists of soft clay mixed with sand. Excepting in two or three villages, there is no jungle to be met with. *Dwellings and Domestic cleansing*.—The houses are constructed in the usual manner, but some of them have tatee walls, and they are arranged in long lines instead of in the usual groups. Defecation takes place on the banks of the Bhyrub, in gardens and on pathways, and about the dwellings in villages Nidhinagar and Chowghori. Hollows, containing dung, ashes, decaying vegetation and stagnant water are to be met with. The habits of the people in Basuntapore are particularly unclean. Dead cattle are thrown on waste lands. In general, cowdung is utilized as fuel. *Roads and Drainage*.—There are three principal roads in this thana, but many villages want thoroughfares. *Drainage* is pretty free. A little water logging takes place in Shusabad. *Water-supply* is obtained from the Bhagiruthi and Bhyrub rivers, and from bhills, khals and wells. In many villages there are wells only; tanks are rare. *General health* was good on the whole, but there was much fever in Basuntapur, Gharipur, and cholera appeared in Kallianpur. There are four lime kilns in the bustis in which are considered prejudicial to health. **GOAS thana** is situated on a higher level than the adjoining thanas, and is less subject to flooding. The soil consists of *poli mati* in the deara villages of Nyamatpara, Lakminarainpur, Ramnagar and Patibona, and permeable sandy clay in the other parts. The thana abounds in jungle in which wild beasts lodge, and bamboo clumps are plentiful in Jhorarpara and Chokorepara. *Dwellings and Domestic cleansing*.—The houses are mostly made up of mats, reeds, bamboos and grass. Mud-walled houses are rare. They are scattered and apart from each other, and are inhabited by small numbers of persons. Domestic cleansing is not generally observed. Unwholesome hollows and ditches, heaps of manure and sweepings, bones and skeletons of cattle on the waysides, ashes and litter about houses, and defecation on the banks of the water courses, are common. In some villages cowdung is dried and used as fuel. *Roads and Drainage*.—There are several public roads in this thana, but they are unprovided with trees for shade. The Bansgaria and Nyamatpara road gets water-logged, and the road along village Chardup was breached by the floods of 1885, and the part where its culvert was, has been converted into a *doba*. The drainage is defective, water stagnates in many villages to a good depth, and the road outside of Chokorepara has obstructed the drainage of that village. *Water-supply* is taken from the rivers Pudma, Bhagiruthi and Bhyrub, and from khals, joles, bhills and wells. There are very few tanks. The khals, bhills, &c., along the portion of the Bhagiruthi within this thana silt and dry up in spring, which

creates great water difficulty. This contingency does not occur in the opposite or "rash" side of this river. The old bed of the Bhyrub has silted up and becomes quite dry in the hot season, and then much distress is experienced for want of water. The Shiabmari khal is polluted by filthy washings and bathing of cattle in it. Wells cannot be sunk in the chur villages. The damush between Patibaria and Gunripara requires to be reclaimed urgently. The hollows in Chandpur, from which water is taken, are full of animalcules, and the tank in the same village is beset with jungle, and its banks used for defecation. The tank in Purundarpur is surrounded with dense bamboo clumps. The doba along the roadside near Chandpur is defiled by bathing of cattle and the various modes of fishing carried on in it. Generally during times of scarcity people obtain water by digging into the sandy beds of khals and bhils. *Jute-steeping* is carried on in the jole in Malin, in the hollows in Dulhutpur and Sonatollah, in the bhil in Damudarpore, in the bed of the old Bhyrub river at Kesubpore and Noodapara, and in the tanks in Ghokorepara. *General health* was good on the whole. **KALLIANGANJ** thana is situated on somewhat elevated ground. Its soil consists of permeable sandy clay, and its villages are open and airy. It is comparatively free from jungle, but numerous bamboo clumps are to be seen in villages Palshi and Gurey. *Dwellings and Domestic cleansing*.—Generally the conservancy is fair, but pits of cowdung and manure and cess-pools were seen amidst habitations in Kamphole, Mominabad, Itacharun, and Dhingur. *Roads and Drainage*.—Roads are insufficient, but two are under construction. One of these, the road from Itacharun to Shingur, has been three years on hand. The road from Nerogram to Kallianganj has been breached by the floods causing a wide gap half a mile in extent. The drainage is good. There is no water-logging worth notice. *Water-supply* is obtained generally from bhils and tanks. Defecation is freely carried on on the banks of tanks. The Bachia bhil, the largest and most important one in the thana, is covered with vegetation, and dries up in the hot season. *General health* was good. **RAGHUNATHGANJ** thana.—The villages are generally open and airy, but jungle exists in the villages along the river Bhagiruthi and bamboo clumps are few. The soil is alluvial in some parts and clayey in others. Most of the villages are subject to flooding, and village Radhanagar has been entirely engulfed by the encroachment of the river Bhagiruthi. There are some silk factories in Barachimul. *Dwellings and Domestic cleansing*.—In construction the dwellings are the same as those in thana Kallianganj. The conservancy is bad. The banks of the rivers and the pathways are resorted to for defecation; there are unhealthy hollows amidst habitations, and the bones of cattle are to be met with on waste lands and in gardens. In some villages cowdung is utilised as fuel, while in others there are manure pits in the front of houses. *Roads and Drainage*.—Thoroughfares are wanting in many large villages. Water-logging is not very common. *Water-supply* is taken from the existing Bhagiruthi river and its old bed, and from the Shahesh and Aganga bhils. Tanks are few and generally polluted. There is however, one good tank in Barachimul, and a hollow in Farilpur has been enlarged into a tank. Water difficulty is experienced during the dry season. *Disposal of the dead*.—In Senkundra the dead are cast into the river Bhagiruthi by some Hindu families who are prejudiced against cremation. In some villages, places for the burial of the Mahomedan dead have been fixed, but in the majority of them this has not been done. *Jute-steeping* takes place in hollows in Barachimul and in the bhil in Teghori. *General health* was good on the whole. Measles appeared in Teghori and Kalabagh. **DEWANSERAI** thana is situated on elevated ground, and is little affected by floods. The soil is sandy clay in some parts and *poli-mati* in others, and it is not damp. The thana is comparatively free from jungle and bamboo clumps. There are a few chur villages in it. *Dwellings and Domestic cleansing*.—The houses are much the same in point of construction, situation, &c., as in Raghunathganj thana. It was noticed that defecation was very common in hollows; that the gowala bustis were very filthy; that there were decomposing cattle dung pits in Sreemantapur and Belitunga; and that the gardens in Bonapara were, covered with kachhini shells and human feces. *Drainage*.—Rain water is pretty well drained into the Bhyrub river through joles, but at Sreemantapur the drainage is bad. *Water-supply* is obtained from the river, the bhil, 3 dighis

(tanks), joles and wells. The Bhyrub, the only water-course in the thana, is deep and flows throughout the year, in contradistinction to its condition in other thanas; but it is covered with dam, moss, &c., and filthy washings in it, and defecation on its banks are freely carried on. The Rajah's dighi in Sreemantapur is in good condition and guarded against pollution. A tank which was excavated and fenced in Bansgaria some three years ago contains good water. Wells cannot be sunk in the deāra villages, or where the soil is too sandy. Difficulty is felt in obtaining water during the hot months, when the people dig into the beds of the water channels and receptacles to meet the want. *Jute-steeping* is largely carried on in the joles in Bonebaria and Balarampur. *General health* was very good. This thana is said to be free from malaria, as there is no humidity of soil, and the air is dry and bracing. Measles appeared in Futeypur and its neighbourhood. SURI thana is situated on a somewhat low level, and is subject to flooding. Its soil is the same as that of thana Dewansera; bamboo clumps are common; and there are a few chur villages in it. *Dwellings and Domestic cleansing*.—The houses are scattered, and none of them are mud-walled. The other arrangements under this head are much the same as in thana Raghunathganj. *Roads and Drainage*.—There are very few roads, and they are devoid of side-drains and trees for shade. The drainage is towards the Bhagiruthi and Pugla rivers. The Mambazar road gets very much water-logged. *Water-supply* is from the Bhagiruthi river, the Pugla and Baston nuddis, tanks, and a few wells. Defecation is common on the sides of these water-courses and water receptacles. *Disposal of the dead*.—The pauper dead are believed to be thrown into the Bhagiruthi river, particularly in Kalliganj. *Jute* is steeped largely in Panka, Chandrapara, Chokhatpur, Dharampur, Rinapur and Kalliganj, it is said, to the prejudice of health. *General health* was good. Cases of measles occurred at Rinapur and Bhagwara. BHARUTPUR thana is situated on the bank of the Bhagiruthi, and is flooded by it considerably, and the soil is much like that of thana Raghunathganj. *Dwellings and Domestic cleansing*.—The houses are devoid of ventilation, and those in Duttabelia are too close to each other to admit of free circulation of air. The Moochees, Haris and Mussulmans are indifferent to domestic cleansing. Defecation on the pathways, about dwellings, on waste lands, and on the banks of the rivers and tanks is common. The offal of slaughtered cattle are thrown about the dwellings of the butchers. *Roads and Drainage*.—The roads are defective, and drainage not quite free, and there is much water-logging in the roads and passages generally. *Water-supply*.—The chief sources are the Bhagiruthi river, the Baroar bhal and the tanks. The river and tanks are defiled in the manner above stated, and tanks are mostly in a bad state, the tanks in Salar excepted. *Disposal of the dead*.—Contrary to the general custom, the pauper dead are buried in this thana, but there exist no arrangements for the disposal of dead cattle. *General health*.—With some exceptional cases of fever and cholera, the general health was good. KHURGRAM thana—This thana is subject to floods generally by the overflow of the hill stream Moyurakkhi. The soil is bad, consisting of a mixture of rock dust, poli-mati and clay impregnated with lime stones, thus exhibiting a marked difference as compared with the soil of the other thanas. The result is that trees and vegetation are rare, and fruit trees are absent. Limestones are plentiful on the banks of Mooraye nuddi. There are very few bails and khals and, excepting in Rajpur and Harinarainpur, the thana is free from jungle. During the flooding this year the Shudal embankment gave way, causing danger to several villages. *Domestic cleansing* is somewhat observed here. There are foul ditches and holes in Rajpur, manure pits in Dhumalpur, and cattle bones on the fields in Jabuni. *Roads and Drainage*.—The villages are deficient in roads. The public road along the river Moyurakkhi is being encroached upon by that river. Rain-water is tolerably drained into the same river and into the Patun khal. Village Jabuni is much water-logged, and the Khurgram road obstructs the drainage from the ditch in Manshubpur. *Water-supply*.—This is obtained from the river above-mentioned, the Monaye nuddi, the Patun and Kumray bails, and from tanks. Many of the tanks require reclamation; most of them are overgrown with vegetation, and a few have silted up. Defecation and filthy washings also take place in many tanks. There are many tanks in Balia, of which

only two are fit for drinking purposes. The Madubpukur tank in Manshabpur and the tanks in Goosi contain good water. The river is fouled by defecation. *Disposal of the dead*.—The pauper dead are buried in some villages by public subscription. *General health* was good, excepting that cholera appeared in a few villages; but the flooding and bad soil above described cause great distress to the people. Gokurna thana is situated on a little higher level than Khurgram, and there is little or no flooding. The soil consists of a mixture of hard clay and sand associated with limestone. Excepting the river Dwarka, there are very few water channels in this thana. There is a marsh in front of village Kashbashpur. *Dwellings and Domestic cleansing*.—The houses in Mohabundi are crowded together, precluding free perfilation of air. The habits of the Mussulmans, who form the bulk of the population of this thana, are very filthy; hence domestic cleansing is neglected by them. Defecation on the roads and village passages is common, particularly in Kashbashpur and Mohabundi. Manure heaps and pits are to be met with in Kashbashpur. *Drainage*.—The drainage is pretty free, but soakage of water in the roads is general. *Water-supply* is taken from bhils and tanks. The water of the Dwarka river is not much used owing to its being muddy. Defecation on the slopes and banks of tanks is frequent. There are two protected good tanks containing wholesome water in village Gokurna. *General health* was good on the whole.

206. **Birbhum** DISTRICT.—GENERAL DESCRIPTION AND SANITARY CONDITIONS OF THE DISTRICT AS A WHOLE.—This district is open, elevated, dry, hilly and entirely free from jungle and forest, excepting in thanas Moureswar, Dubrajpur and Rajnuggar, which abound in sâl jungle. It is much more elevated than the two neighbouring districts of Burdwan and Murshidabad, and from its elevated position, it is less liable to inundations generally, although the hill streams swell during the rainy season and submerge some portions of it. The most hilly portions are the Nalhati and Dubrajpur thanas. The principal rivers are the Ajai, Moyurakhi, tributaries of the Bhagiruthi and Balkeswar rivers, respectively. There are other minor streams, such as the Bans and Pugla nuddis in thana Moureswar and the Balkiswar nuddi in thana Bolpur. Its towns are *Suri*, which is the Sudder station; *Rajnuggar*, where there are the remains of the walls which were constructed for protection against the inroads of the Maharattas; *Dubrajpur*, a commercial town; *Nulhati*, a well-known mart by the side of the East Indian Railway loop line; and *Ramporehât*, the head quarters of the subdivision of the same name. The soil consists of dense marl intermixed with particles of stone and limestone in some parts, and of rocky formations in other parts. The upper strata consists of hard clay impregnated with limestone, or of sandy impermeable clay uniformly mixed with rocky particles. This soil is particularly suited for the cultivation of sugarcane, potato and other tubers, and the mulberry tree for feeding silkworms for the rearing of cocoons from which the silkcloth, for which this district is famous, is manufactured. As the soil absorbs the surface water to a good extent, the district is free from ground moisture. Barren waste lands are to be met with in thanas Bolpur and Moureswar. *Dwellings and Domestic cleansing*.—The houses are mud-walled in some places and made of mats, bamboos, straw or other grass in others, with thatched roofs generally, and they are all ill-ventilated. The habits of the people are determined by the occupations they follow, or the caste they belong to. House sweepings, cow-house and other litter, and other refuse lie about or are accumulated in the midst of habitations, on roads, on the passages, on waste lands, or in hollows, and the gowala bustis are disgustingly filthy. The cow-houses are undrained, and the fluid house refuse runs into the nearest hollows. Conservancy is as sadly neglected as in the Nuddea and Murshidabad districts, but promiscuous defecation is not so general as in them. In some villages cattle-dung is stored in pits for manure, where it festers and rots. Offal of slaughtered cattle are thrown in front of dwellings. In thana Bolpur, spirituous liquors are more largely consumed than in the other thanas, and the drunkards commit nuisances in the bustis. *Roads*.—This district is better provided with public roads than Murshidabad and, owing to the dryness of the soil, village roads are not so much wanted. The road from Scynthia to Shathalsha is thick in dust and sand during the dry season, and deep in mud during the rains. The pucca road from Suri to Dubrajpur is devoid of trees for shade, and the kutcha road from Panrui to

Bolepur, on which traffic is great, is below the level of the paddy-fields on both its sides, and becomes muddy during the rains. There is a breach at Pakhna on the sudder road, caused by the culvert having been carried off. *Drainage*.—The natural drainage is good, the surface water either flowing into the water-courses or soaking into the soil, and consequently does not stagnate or cover any large extent of surface. *Water-supply*.—This is taken from the rivers, nullas, kandus, brooks, tanks and large hollows. The tanks naturally contain good water. A few of them have their margins sufficiently raised to obviate the flow of surface drainage into them; but many are open to contamination, and none have been exclusively reserved for drinking purposes. Defecation is the chief source of pollution of tanks as well as of kandus. Some of the tanks in thana Shakalipur require reclamation. Dead infants are occasionally thrown into the rivers and brooks. In thana Bolpur, owing to the water-courses running through the paddy-fields, irrigation is greatly promoted, and consequently the harvest is excellent. *Jute* is not cultivated in this district. *General health*.—There was not much fever on the whole this year, but it was observed that thana Bolpur and village Bikpara in thana Nulhati have been depopulated—the former by fever of three years' standing, and the latter by repeated outbreaks of cholera during the past ten years. The cholera of this year, which prevailed in almost every thana in the district, was sporadic in character.

The Deputy Superintendent has not furnished the results of his sanitary inspections in each thana in this district as he has done with regard to Nuddea and Murshidabad.

207. *Assistant Surgeon Jachub Chunder Ghose, Rai Bahadoor, Deputy Superintendent of Vaccination, 3rd Metropolitan Circle*.—This officer inspected,

	Thanas.	Number of villages.		Thanas.	Number of villages.		
24-PER- GUNNAHS DISTRICT.	{ Bariepore	... 16	HIGHER DISTRICT.	{ Chanditolla	... 2		
		Bistopur			... 1	Pandua	... 1
		Bankipore			... 1	Khanakool	... 4
	{ Total	... 18			Jehanabad	... 23	
...		—			Goghat	... 20	
HOWRAH DISTRICT.	{ Ulooberia	.. 2		{ Haripal	... 30		
		Dumjoor			... 30	{ Total	... 86
		Jagatbullabpore	7		...		—
	{ Total	... 39	...		—		
		—	BURDWAN DISTRICT.		{ Ranigunge	... 2	
				Assensole		... 2	
				Satgachia		... 1	
				Montessor		... 1	
				Kutwa		... 1	
				Katugram		... 1	
				Selimabad		... 52	
				Koyra	... 15		
				...	14		
				{ Total	... 89		
				...	—		

pore and Howrah. His report, an abstract from which is subjoined, contains some valuable information, but it treats of the districts as wholes, and is somewhat meagre, and cannot therefore be of practical use in relation to each thana inspected.

208. The first insanitary condition which attracts attention in the mofussil villages is bad *Conservancy* as denoted by the want of privies and latrines, and the consequent necessity of defecating on the sides of foot-paths, specially during the paddy-sowing season when fields are not available for the purpose of obeying calls of nature. The stench of the fecal matter thus exposed becomes at times intolerable. The cattle make matters still worse by treading on the feces, and thus scattering it and besmearing the paths with it. In the **Burdwan** district defecating on the side of tanks is common. In some places the pigs act as scavengers by devouring the excreta, but their own droppings not only re-establish the evil, but also add to it by their disgusting odour.

209. The next point, and which is of no less importance, is bad *Water-supply*. The tanks in all four districts under observation are indiscriminately used for drinking, ablution and other purposes. In **Burdwan** the women, before entering the water for their bath, anoint their bodies with oil and turmeric—an abominable and disgusting practice. These ingredients with the secretions of the skin is thus mixed with the drinking water. Again, cattle and dogs also

lave themselves in the tanks during the hot weather. In the **24-Pergunnahs**, which is close to the Metropolis and its Suburbs, bad water is drank in almost all villages, particularly in thana BISTOPUR where the low people use *bada* water, or water of the swamps. In thana ULOOBERIA in **Howrah**, although the canal water is largely used by the people in its immediate vicinity, there are others, particularly the low class people, who freely use the water of deep pits dug out to procure earth for building and other purposes, the water of which is extremely unwholesome and disgusting, particularly during the dry season, when it is covered with a thick scum of "variegated colour," the look simply of which is abhorrent.

210. The *third* condition demanding attention is *Jute-steeping* and *Shell-lime manufacturing*. Jute-steeping is carried on in the eastern parts of thanas SINGOOR and CHANDITOLLA in **Hughli**, in a swamp named Dankuni, to which allusion will be again made under the head of "Malaria." During the months of August and September, the process, combined with the heat prevalent during those months, becomes a source of unhealthiness. The shell-lime manufacturing is carried on in thana ULOOBERIA. Hoaps of shells of the species *Brachiapodic Mollusk*, commonly called *Shamook* in the vernacular, are exposed to the sun's rays to be dried prior to being burned in a kiln. The vapour emitted by the burning shells is suffocating and intolerable, and the stench arising during the drying process contaminates the air to the detriment of health. The Bagdis, who generally carry on the manufacture, escape with impunity, owing, no doubt, to their constitutions being habituated to the bad results of the processes.

211. Another source of unhealthiness is *malaria*. This malaria is associated with rainfall, with the artificial and natural drainage of the country in the shape of rivers, khals, bhils, and with ground inequalities. Thanas JEHANABAD, GOGHAT, KHANACOO, SINGOOR and CHANDITOLLA, in **Hughli**, the villages north of KATUGRAM and the DAINHAT Municipality in **Burdwan**, suffer from the above cause more or less from time to time, and may properly be considered the home of malaria. Thanas Jehanabad, Goghat and Khanacool are watered by two large streams, the Damudar and Bulkessur, which overflow during the rains. These thanas are therefore protected from the flooding by *bunds* (embankments). The ground inequalities in them are markedly slight; they are intersected by numerous khals and rivulets; and they contain bhils or swamps. The bunds, though they protect the villages from being submerged, exercise an evil influence by impeding the free drainage of rain-water which consequently accumulates in the fields and bhils, there being no contrivances for the discharge of the surplus water when the rivers fall. The soil remaining for a long time under water becomes malarious, and hence epidemic fever prevails during the drying-up process. The Singoor and Chanditolla thanas are affected by an extensive swamp (Dankuni julla) in proximity to them. A khal has been excavated of late to drain this swamp, which has succeeded in reclaiming large portions of land from the julla, and has consequently benefitted the people of the locality by generally reducing the generation of malaria. The villages north of thana Katugram are flooded during the rains by the overflow of the Ojai river. They are low-lying, and there are no drains to carry off the accumulated water: hence the unhealthiness which prevails in these villages. The source of the unhealthiness of the Dainhat Municipality is traced to the insanitary conditions obtaining in a low chur land, in its immediate vicinity, extending over a few square miles. During the rains this chur is submerged, and the indigo and other crops, grass, &c., rot by remaining long under water, and become a source of malaria and danger to the Municipality. This year the rainfall was abundant, and the lands were therefore submerged early and drained late. The consequence was that the Municipality suffered more from fever than during other years. It is generally believed by those who have had experience in the matter that a normal rainfall is conducive to health and comfort, and that the extremes either way cause sickness. A scanty rainfall is considered a general calamity, as the impurities of the soil are not properly washed off and carried away, and the heat is persistently great—and that thus malaria is generated and produces fever of a virulent type. On the other hand, abundant rainfall is considered a partial evil, for then the influence of malaria is spread to places which are not drained properly after remaining under water for some time.

212. *Results of advice tendered.*—The people receive the sanitary instructions offered them with indifference. They are probably not aware that in the most ancient historical record, the Mahabharata, the saying of Vishna to Yudisthira, 'ममता,' inculcates that proper conduct consists of not voiding excrementitious matter in the immediate vicinity of roads or foot-paths, in rice-fields with standing crops, or in immediate proximity to water, near *chatuspathies* or where people assemble to discuss on science, literature, religion, &c. Many villages complain of poverty and want of funds for erecting latrines, &c., their condition being one of extreme wretchedness. But the reality is that they are apathetic, for if they were to combine, they could, under the proper guidance of their headmen, accomplish by their own manual labour and exertion the necessary reforms gradually. The people of Ulsoberia, when called upon to excavate tanks for good drinking water, and to dry the shells for their lime trade at a distance from their dwellings, objected to do so, on the ground that their health do not suffer by these conditions. The Deputy Superintendent explained to them the necessity of being careful, as, although cholera epidemics do not come on all of a sudden, their health was being actually undermined by bad air and water, and that under such circumstances the "*bacillus* springs up and flourishes," and ultimately carries off thousands. But the greatest difficulty to be contended with is the ignorance of the people, their intelligence "being not far superior to the cattle with which they herd." Another result of ignorance is superstition. In times when epidemics prevail, the people present offerings to their deities instead of exerting themselves to remove the causes of such epidemics. The Deputy Superintendent endeavoured to impress upon them the fact that their weal or woe depended on the observance or neglect of certain natural laws; that the fact of cholera or fever being at their doors indicated that these laws had been neglected; that worshipping or offerings to the deities could not ward off such occurrences; that instead of fasting they should observe cleanliness; that they should be up and doing, as the work before them was gigantic; that they should accomplish piece-meal and by degrees all that is necessary in the way of providing themselves with good drinking water tanks; that they should effect by the strength of their own arms the filling up of the filthy pits in the immediate vicinity of their dwellings; that they should erect latrines for defecation, to obviate resorting to foot-paths and banks of drinking water tanks; that they should remove refuse from cattle-sheds and heap them in small quantities at suitable distances from their dwellings; that cholera-infected clothing ought to be buried after disinfecting them; and that the washing of such clothing in tanks ought to be stopped. *Suggestions.*—The Superintendent suggests that drainage and other works in malarious districts might be undertaken by municipal or corporate bodies organized for the purpose according to the nature of the work.

213. MUNICIPAL INSPECTIONS—24-Pergunnahs DISTRICT—

SOUTH SUBURBAN Town.—This is one of the largest Municipalities in Bengal, being about 36 square miles in extent; but its sanitary condition is not as good as it should be, considering its proximity to Calcutta. Many places in it are thickly covered with jungle which is not cleared even once a year; and during the rainy season this jungle rots and makes the air unhealthy. The cleanliness of the drains within the Municipality was, during the year under notice, more or less neglected, and in some places the drains were not even touched. They are covered with weeds and underwood, and foul water, generating noxious effluvia, stagnates in them. The result was that cholera, more or less violent in character, broke out in several places in the Municipality, committing great havoc in Dumdum, Barisa, Goragacha, Tiljala, and Gungarampur. In the last named locality, which suffered the most, the drains had been most neglected. The tanks are generally kept unclean, and in most of them the water is unfit for drinking. The defiling of the tanks by the washing in them of clothes soiled with cholera matters is not uncommon. Rules on this subject are indicated, as the people do not at all recognize the danger of this action on their part. The conservancy arrangements are most defective. Last year it was proposed to provide two carts for the purpose of removing sewage and refuse from the Gopalpara busti, but nothing has been done in the matter yet. The Town has three conservancy carts and one wheelbarrow, and 42 coolies are employed besides the carters. It is providing

itself with lights while the most crying sanitary evils remain unremedied. The Commissioners do not seem to be alive to the responsibility thrown on them. **RAJPUR** town has many tanks containing good drinking water, but it has also many others containing foul water which should be re-excavated. The drains are generally cleaned before the rains, but the drainage is capable of much improvement. There are jungles here and there, but they are cleared at stated intervals. The general health was good. **JOYNAGUR** town is thickly populated, containing mostly well-to-do people. The roads are both pucca and kutcha, and are in good repair. It has upwards of 20 large tanks containing good drinking water. The drainage calls for improvement. General health was good. **Barisal** town is also thickly populated and has jungles in several places requiring to be cleared. There are several pucca and kutcha roads which are in good repair; but the drains are far from a satisfactory state. With several good drinking water tanks there are many foul ones which should be kept clean. The drainage is defective. Health was good. **Hughli District.**—**Utterpara** is a model Municipality. The drainage system is all but perfect. The people generally use the water of the Hughli. There are many good drinking water tanks. The conservancy arrangements are satisfactory. Night-soil is buried at a distance from the Municipality. The Chairman of the Municipality takes very deep interest in it, and he thoroughly understands the principles of sanitation. He deserves thanks from the Sanitary Department. The people, however, have not yet recognized the value of house sanitation, not even the well-to-do who can afford the expense of reform: for here a pit full of filth is allowed to stand, and there a tank evolves malarious effluvia, and the rich owner of these thinks them to be innocuous, and will not remove them. The health of the people was good. **KORNING** town.—As there are many brick-fields in this Municipality, the roads are generally metalled with the debris of the brick-kilns. The drainage is not bad, but is capable of much improvement. There are many pits where foul water stagnates and cause the surrounding localities to be unhealthy. They should be filled up or converted into tanks. The Municipal Commissioners complain that they have no power to deal with such nuisances. These powers with the requisite safeguards should be granted to them. There is no municipal tanks, but there are about 20 good private drinking tanks. There are eight coolies and two carts for conservancy. There are no public latrines. The well-to-do have private privies of their own, which are cleaned by private men. The arrangements for the disposal of the dead are satisfactory. Health was good. **Bhudresar** town.—The people use the water of the river Hughli, and there are four good drinking water tanks besides. The drainage is capable of much improvement. Health was good. **Baidyabati** town.—The people use the water of the river Hughli, and there are six good drinking water tanks. The drainage is far from satisfactory. There are several pits containing accumulations of filthy water which should be filled up. The general health was good. **Schunabad** town.—The people generally use the water of the river Dakeswar which flows by the town on the west. The drains are far from satisfactory, and the conservancy arrangements are not sufficient for the purpose. The general health was bad as there was much fever. **Bansbaria** town stands on the Bhagiruthi river, and the water of that river is used by the people generally. The drains are not in a satisfactory condition, and the conservancy arrangements are insufficient. Health was good. **Burdwan District.**—**Dainhat** town.—This town is not a very healthy one. Last year malaria broke out within it, and a charitable dispensary had to be established to give relief to the sick poor. There is a *shur* of the Ganges in the north which remains submerged for a part of the year. Between the *shur* and the main land there is a bit of stagnant water from which noxious emanations arise which contribute to the malarial fever. Last year the river rose earlier and inundated the *shur* before the *shur* plants were cut and removed. The plants rotting under water made the water unhealthy and generated malaria. The drains are in pretty good order. The people use the water of the *shur* as well as that of tanks. **Kulua** town.—As this town is comparatively thickly populated, greater attention should be paid to its conservancy arrangements. There are no latrines or privies. The people generally resort to gardens or waste lands for defecation. The drains are bad and not kept in good order. These defects were pointed out to both the

Chairman and the Subdivisional Officer. The general health was very bad ; both cholera and fever prevailing seriously. *Kulna town*.—The people of this town generally use the water of the river Bhagiruthi and also of several tanks, the water of which is not fit for drinking purposes, but still the lower class of people use it. The drains are not in good order. The conservancy arrangements are such as the town can maintain, but they are insufficient for the purpose. There is a bhl on the north and the wind which blows over it to the town during the cold months makes the town unhealthy. The general health was not good. Cholera raged and caused 25 deaths during the three cold months, and there were also several deaths from malarious fever. **Howrah District**.—*Bali town* stands on the river Hughli. The people generally use the water of this river, and there are also several good drinking water tanks. There are five conservancy carts, four wheel-barrows and twelve coolies for conservancy purposes. The drains are in good order ; but there are several pits in which foul water stagnates and makes the place unhealthy. They should be filled up, but the Municipal Commissioners complain that they have no power to deal with such cases. The requisite powers should be given to them. It was noticed that a fair proportion of the municipal income is expended on sanitation. The general health was good.

214. **GENERAL OBSERVATIONS AND SUGGESTIONS**.—Good drainage is a crying necessity in every town and village in Bengal. The drains should be so constructed that they might empty themselves into some main drain. But in almost all the towns and villages which were inspected, there are either no main drains, or the other drains have been so constructed that they do not empty themselves into the main drains. As the carrying out of perfect drainage schemes entails scientific knowledge and skill, the Municipalities cannot be expected to possess such means as will place such knowledge and skill at their disposal. The Deputy Superintendent therefore suggests that the Government should cause a scheme of drainage to be prepared for each town, and that the Municipal Commissioners should be called upon to introduce it gradually, and to report every year the progress they have made in the matter. The people still do not understand the subject of sanitation, hence the marked indifference manifested with regard to it everywhere, even by the well-to-do. Some steps should be taken to popularize this subject. In some Municipalities sanitation is neglected for some such luxury as lighting. Every Municipality should be under the obligation of expending a certain proportion of its income upon sanitary improvements, and this should be enforced by law. The Municipal Commissioners of some Municipalities, such as Bali and Kotrung, complain that they have not the requisite powers to carry out certain improvements, such as filling up *cupi* &c. They should be invested with the necessary powers, but with such safeguards as will obviate abuse.

215. *Assistant Surgeon Ashutosh Law, Deputy Superintendent of Vaccination, 4th Metropolitan Circle*.—The sanitary inspections of this officer embrace five towns and 324 villages situated in the thanas in the districts cited in the margin. He has limited his report to a detailed account of the sanitary condition of only three thanas in these two districts as typical of the conditions obtaining in the rest inspected by him. His description of these thanas is epitomized below.

<i>Midnapore District.</i>		<i>Bankura District.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Sabong	... 20	Kotulpore	... 14
Midnapore	... 33	Bishenpore	... 11
Keshpore	... 54	Sonamukhi	... 7
Salloni	... 5	Indas	... 2
Ghattal	... 26	Ondah	... 13
Chunderkona	... 25	Gungajulghatti	13
Tamluk	... 1	Bankura	... 7
Sootahatta	... 16		
Nandigram	... 14	Total	... 67
Egra	... 8		
Contai	... 12		
Panchkura	... 24		
Garbetta	... 19		
Total	... 257		

216. **MIDNAPORE DISTRICT**.—**MIDNAPORE thana**.—The villages in this thana are situated mostly amidst and scattered over paddy-fields.—*Dwellings*

and *Domestic cleansing*.—The dwelling-houses are chiefly made of mud-walls with straw-thatched roofs. Their basements, although very low, are dry to a certain extent, but their ventilation is defective, owing to the roofs being not very high, and to absence of windows generally. The observance of domestic cleanliness is almost the same in every village in all the registering circles of this district, the habits of the people influencing and regulating it in every way. This is evidenced by the tendency of the people to follow

their fellow-brethren tacitly in the construction of dwelling-houses and cowsheds; in the excavation of ditches near them; in digging of pits in some corner for the reception of manure; in throwing refuse either in front of or rear of their abodes; in defecating on maidans, in the rear of houses, or on roadsides and banks of tanks, both by males and females. One dwelling-house in a village is the pattern of others. The only place where cleanliness is observed by the people is the kitchen, which it is leaped with cow-dung and mud every morning, and swept several times during the day, and this practice prevails in every house. The courtyard and the fronts of the house are to a certain extent kept clean in some villages. Here all conservancy ends. Instead of throwing the house sweepings and refuse on a distant place away from the village, they are generally kept in some corner till a large heap is formed, and then even it is not removed, but allowed to rot there. The house surroundings are seldom, if ever, kept clean. In one corner of the house a few broken handies; in another corner faggots; in a third some rubbish; in the rear heaps of filth or refuse; a small ditch in one corner or in front or back; a pile of straw cuttings or grain on one side; a cowshed close to it; and a small vegetable garden somewhere about the place, are commonly to be met with. Tidiness is unknown to the rural population. They seldom dust the walls and roofs of their houses, which are invariably full of cobwebs, dirt and soot. The entire absence of latrines or private privies prevails throughout the interior of the district. Their superstitions are so strong that no mortars can be found anywhere in the villages. Rear of houses, roadsides, bamboo topes, bank of tanks, &c., are the places for defecation or the privies of the rural people, whether male or female, young or aged, rich or poor. In rainy weather, specially, the surroundings of the houses become worse, for then, in association with the stagnation of water, the accumulation of refuse and cow-dung, &c., the deposits of human ordure tend to aggravate or increase the evil. At times the offensive odour or stench emanating from the filth is very great. Nevertheless, the occupants of the houses are not disturbed by it, but are at ease. Generally the villagers are scantily clad, and they wear the two *dhuties* they possess till they become almost black, and they wash them in the same pond or tank the water of which is also used by them for culinary and drinking purposes. *Drainage.*—In the majority of the villages, nay in almost all, drainage is imperfect or defective and obstructed or insufficient. *Water-supply.*—The villages in the Midnapore district suffer more or less from scarcity of good drinking water. There are numerous ponds, tanks and ditches, but very few of them are good ones. If there is a good tank in a village, it is never allowed to remain so and free from pollution, as the customs of the people to wash and bathe in the same tank, debars them from enjoying the benefits of drinking unpolluted and wholesome water. The abundance of excavations and ditches, close to dwelling-houses is mainly due to the practice of taking earth for building mud houses. These excavations are never filled up, nor are they dug enough to form tanks; and in the rainy weather water collects in and converts them to what the people call *dobas* or ponds. The close proximity of these excavations to dwelling-houses is not accidental but premeditated for the convenience of the family, their water being at hand always for use. In many villages the people are so badly off for water that they are compelled to drink the water of these ditches or *dobas*. It may be imagined that these rustic people are in the habit of drinking filthy and dirty water out of choice; but such is not the case, for many of them take the trouble of going a long distance to fetch a vessel of good water. There are very few tanks which do not receive surface drainage. Well water is also used by the people; but the village wells are not protected by pucca parapets. Their margins are merely surrounded by a few stones, and the surroundings of the wells are seldom kept clean. Hence their water is not very clean and has a peculiar odour. On the whole, there is no deficiency of water in general, but what is felt is the want of wholesome drinking water. *Disposal of the dead.*—Generally there are no fixed places for the cremation or interment of the dead. The convenience of the people is the first point. The Hindus burn their dead on what are called *sasāns*—waste lands—and banks of tanks, the latter being preferred. In several villages the people drink the water of the same tank near which the dead are cremated. In villages which are close to rivers or khals, the dead are cremated on their banks, and some people,

after burning the body partially throw it into the water. The people do not hesitate to drink this water. The Mussulmans bury their dead generally near their houses, either in mango topes or near tanks. CHUNDERKONA thana—*Domestic cleansing*.—In this thana domestic cleanliness is somewhat cared for. The surroundings of the houses are very nearly of the same description as in other places. There are no public or private privies. The cow-sheds are in the majority of cases located near dwelling-houses, but they are kept pretty clean. Dead cattle are removed to waste lands at a convenient distance from the houses. *Water-supply*.—The main source is tanks which are numerous; but there are very few big and good tanks; scarcely any are free from aquatic vegetation—weeds, sedges and pana—and all receive, to more or less extent, surface drainage. Their water is also contaminated by washing and bathing carried on in them. Although the water-supply is sufficient as regards quantity, there is no doubt that good and wholesome drinking water is rather scarce. *Drainage*.—The drainage of the villages is very imperfect; in fact there is scarcely any. GHATAL, KESHPUR, GURBETTA, PANSKURA, NUNDIGRAM, SUTAHATTA EGRA, CONTAI AND SABANG thanas.—The arrangements under all heads in these thanas are almost identical, and if described would very nearly resemble those obtaining in the Midnapore thana. The main differences are the following: The villages in thana KESHPUR are not very filthy, and in many of them there are large tanks which are kept clean and reserved for drinking purposes only. Most of the villages in thana GARBETTA are situated amidst sâl forests, and some villages possess natural drainage owing to their elevated positions. In the PANSKURA thana the drainage is more or less effective, as channels have been provided to carry off the water to the irrigation canals.

217. **Bankura DISTRICT**.—GANGAJALGHATI is the worst thana in this district. *Dwellings and Domestic cleansing*—The villages are generally situated amidst forests and paddy-fields. The dwelling-houses are built invariably in rows or groups close to each other. Domestic cleanliness is not at all observed. The condition of the compounds, the fronts and backs of houses, the corners all round the house is shocking. There is no part, even including the entrance to the houses and the pathways, which is free from accumulations of filth, garbage, sweepings, straw cuttings, cowdung, dung-hills, &c., and during the rains the condition becomes tenfold worse. There are no latrines or privies. *Drainage* is defective or nil. *Water-supply* is taken from tanks and wells chiefly. In places where there are khals or rivulets, they are also resorted to. The tanks are scarcely free from pollution and contamination; so also are the wells, as they are not protected by pucca parapets against receiving surface drainage, and their surroundings are filthy. No tank or well has been exclusively reserved for drinking purposes. There is no deficiency as regards the quantity of the water-supply, but good drinking water is scarce. *Disposal of the dead*.—Cremation is carried on near the sâl forests, or on waste lands or banks of tanks, according to the convenience of the people. BISHENPORE, KOTALPORE, SONAMUKHI, ONDA, and BANKURA thanas. The arrangements under all heads in these thanas are identical with those in Gangajalghati, with the following exceptions:—Domestic cleansing is far better observed in all these thanas and the houses and their surroundings are not so filthy. In BISHENPORE the wells are to some extent protected by stones or earthen parapets. In SONAMUKHI and ONDA the water-supply is insufficient. In BANKURA there are several large tanks, but unfortunately none of them have been reserved exclusively for drinking purposes. *General health* was on the whole pretty good in both the districts of **Midnapore** and **Bankura**, but in some villages only in Midnapore several persons were found to be suffering from chronic enlargements of the spleen. *Advice tendered*.—Verbal instructions were given by the Deputy Superintendent to the rural people almost everywhere as to how they should live and keep themselves and their houses, and he explained to them at the same time what benefits would accrue to them from observing the rudiments of sanitary laws, and how baneful and injurious to them the neglect of these precautions would prove. On several occasions the Deputy Superintendent came across vernacular schools and patshalas where the children were being taught *Sarir Palan* ("How to preserve health"), and he took the opportunity to instil into the minds of the pundits and their pupils the absolute

necessity of observing the simple hygienic rules inculcated in that little book. He observes that "light of knowledge and civilization have not as yet penetrated these rural areas. The organization and establishment of small minor vernacular schools all over the districts, and the diffusion of elementary education among the mass of the people enabling them to understand the value of good and bad living, is the essential thing wanted." In places where the people complained of bad water, he always took pains to explain to them what precautions are to be taken before using such polluted water, the necessity of boiling the water, and of using alum or nirmali (*strychnos potatorum*) to clarify it. He also advised them to keep at least one tank separate and reserved for drinking water. In places where the surroundings of dwelling-houses were found to be filthy, he advised the owners to remove the refuse and house-sweepings to a certain distance, explaining to them in full the injurious effects on health of polluted and contaminated atmosphere. In several villages in thana Gungajalghatti, where the surrounding of the houses, the roads and pathways even up to the entrance of the house, were found blocked up by filthy accumulations, he induced the householders to remove, then and there, the filthy heaps, giving at the same time strict orders to the village chowkidars to see that they are removed and the places cleaned within a week's time. But he is of opinion that the surest way to improve the sanitary condition of the rural areas is to impart to the rural population elementary education and knowledge sufficient to enable them to understand the value of domestic cleanliness in all its phases.

218. **MUNICIPAL INSPECTIONS.—Midnapore District.**—CHUNDERKONA Town.—Domestic cleansing is not quite satisfactory. One tank only has been reserved for drinking purposes exclusively. The drainage is to a great extent effective. It empties into the Norakati khal which joins the river Doni. **Bankura District.** BISHENPUR Town.—Surface cleansing is well attended to here. There are some public latrines, and the well-to-do have private privies of their own. Almost all the roads are provided with side-drains, and the drainage acts, on the whole effectually. There are several large tanks or dighis. Their water is not unwholesome; but most of them are now overgrown with weeds and aquatic plants. Of the above tanks, only one has been reserved exclusively for drinking purposes. There are also a few pucca wells in this town. KOTALPUR is a pretty large rural town. Its roads and pathways are mostly pucca and in good order, and are kept clean. The drainage is defective. The water-supply is taken from tanks and wells which are not above suspicion. SONAMUKHI town.—Domestic cleansing is fairly well attended to. The drainage is defective.

219. *Assistant Surgeon Jogendra Nath Dutta, Deputy Superintendent.*—This officer inspected, for sanitary purposes, all the wards in the **Suburbs of Calcutta**. His report furnishes a general account of the Municipality as a whole, and contains important suggestions for improving the sanitary status of each of its wards. He says:—The sanitary condition of the Suburbs of Calcutta is deplorably bad. All the bustis are in a more or less insanitary condition, and some of them extremely filthy. The drainage arrangements are very defective, and where drains exist, they are found full of sewage matter, stinking abominably and wanting in outfall. They are not regularly cleaned, and the road-side drains are generally obstructed with street sweepings, and in places are full of stinking slush. The water-supply is insufficient and generally bad; the tanks which supply water to the mass of the Suburban population receive the surrounding surface washings, and the water they contain is generally found to be discoloured and utterly unfit for drinking and culinary purposes. The conservancy arrangements are most unsatisfactory throughout the Municipality. Heaps of decomposing refuse lie unremoved on the road-sides and about habitations. The public latrines are not always regularly cleaned, and smell badly. Moreover, in some of the bustis they are built in dangerous proximity to tanks, and, owing to there being but a few free latrines, promiscuous defecation is general. Want of public urinals also promotes surface defilement. As regards ventilation, the bustis are generally crowded and closely built. Under these disadvantages it is not to be wondered at that the health status of this Municipality is as bad as ever. *Suggestions submitted with reference to each ward.*—**Cossipore.**—In this ward measures should be adopted for improving the sanitary condition

of the Mutijeel and Rajabagan bustis, and to fill up the pits and hollows made by digging earth for building purposes, and Baninath Pal should be ordered to provide a better and longer chimney for his oil engine. *Chitpore* (1). To provide better conservancy arrangements and proper drainage in Nobabputty, Charinorpara, and to re-form in a proper manner the Narikelbagan and Tyndelbagan villages, provide pucca drainage, and adopt measures for the proper removal and disposal of the refuse matter kept in heaps in them. (2) To close up the several foul-water ponds in Khasbagan without delay, and to clear the jungles that abound in it. (3) To take immediate steps to improve the condition of Bysskbagan and Durgapur, and to open out roads for conservancy carts in Ghosebagan busti. (4) To cover the tank which has been filled up with street sweepings on the canal side with a layer of earth to prevent it becoming a nuisance. *Ultudinga*.—(1) To place the Settbagan busti on a better sanitary footing, and to demolish the private privies built in close proximity to the tanks, the water of which is used for culinary purposes. (2) To take steps to keep clean the gowala busti in Haldarbagan, and to adopt measures for the complete removal every day of the cowdung from the drains. (3) To repair the *kutchu* roads in Kacheebagan and Pearbagan bustis as they are hollowed out in the centre. *Manicktolla*.—(1) To close against further interment the Chopedarbagan burial-ground in Manicktolla with the least possible delay. (2) To attend to the better sanitation of the Manicktolla busti, and provide better conservancy arrangements in it. (3) To enforce strict supervision over the sanitary arrangements in the Nebubagan and Lalabagan bustis, and to see that road sweepings and other rubbish are removed daily, and that the side-drains are not blocked up and obstructed. (4) To have the *kutchu* road in Badalpara properly metalled. *Balighatta*.—(1) To provide the Rajabagan and Shahebbagan bustis with an efficient system of drainage. (2) To put down indiscriminate defecation by the *dhangurs* in Rajabagan busti. (3) To remove the cowdung from the Marhatta ditch, and keep that ditch in proper working order. (4) To place the slaughter-house on a better sanitary footing, and to prevent the surface defilement that takes place there. (5) To provide the Jugipara busti with an efficient system of drainage and better conservancy arrangements. (6) To have the lime-kiln in Chingrihatta removed without delay, and to look after the sanitation of the Bagdipara busti. *Entally*.—(1) To have the large drain passing by the Moulali Durga in Entally thoroughly cleared out of silt and sewage. (2) To provide the Gulpara busti with an efficient system of drainage. (3) To have the Kutusbagan busti which has been recently burnt down, re-formed with due regard to sanitation. (4) To fill up the several low lands in Tengra, and to strictly prohibit the keeping of pigs in Haldarbagan. (5) To improve the sanitary condition of Harecpara busti. (6) To see that the latrines in Armonibazar are daily and properly cleaned, and the washings regularly removed. *Baniapukur*.—(1) To provide the Tantibagan busti with proper drainage, and see that accumulations of filth do not occur in it. (2) To have the large drain which carries the washings from the different tanneries in Dugdugipara made *pucca* as early as possible. (3) To see that the washings of the hides are properly disinfected and removed somewhere beyond the limits of the Municipality. (4) To have the Tiljalla burial-ground closed, and the road to Tiljalla metalled. (5) To put a stop to the throwing of the cuttings of hides on the roads, and to see that they are not collected in heaps, but removed daily. *Ballygunge*.—(1) To stop promiscuous defecation in Naskarpara in Ballygunge, to fill up the pits, hollows and ditches that abound, and cut down the jungle which grows luxuriantly here. (2) To improve the sanitary condition of Bogbagan, and to order the removal of the soap manufactory to somewhere else. (3) To have the *kutchu* road metalled. (4) To adopt better conservancy arrangement in Malai busti, and to take immediate steps to open out roads for conservancy carts in Singerhati mohulla. (5) To improve the sanitation of Chandmari by the clearance of jungle. *Bhowanipore*.—(1) To provide the Gungaram and Walfut Bagan bustis with proper and efficient drains, and to adopt means for the daily removal of the buffalo excreta. (2) To place the Porabagan busti on a good sanitary footing, and to see that the drain passing through the bazar is kept clean. (3) To put a stop to children defecating on the roadsides in Badapara. (4) To maintain strict

supervision over the Sitaram and Gossay bustis, so that they do not fall back to their former insanitary condition. (5) To close the many foul water tanks belonging to the Halidar family in Kalighat. (6) To attend to the drainage of the Jalapara busti and of the localities in Kalighat, all of which discharge their contents into tanks. *Tullygunge*.—(1) To fill up the pits and hollows which exist outside the burning ghât and to establish proper conservancy arrangements in Bangul Bazar and Kalupara. (2) To cause the private latrines to be regularly cleaned by the mehters, so that indiscriminate defæcation in the jungle may be stopped. *Alipore*.—(1) To convert into good tanks the large excavations made for earth for bricks by Messrs. Mackintosh, Burn & Co. in Durgapore. *Watgunge*.—(1) To remedy the grave sanitary defects which exist in Uriapara busti. (2) To place the Sukteepara busti on a proper sanitary footing. (3) To see that the bustis are properly and regularly cleaned. *Ekkbalpore*.—(1) To have the drain in Ramchandrapore busti well cleared out and its communications with tanks cut off. *Garden Reach*.—(1) Not to allow the inhabitants of the new Kapidanga busti to dig out earth, and to fill up without delay all existing excavations. (2) To provide better conservancy arrangements in Moochi Kholla busti, and to erect public latrines for the inhabitants of the Singerhati busti. (3) To take early steps to remedy the grave sanitary defects which exist in Dhankhati and Jorukoti, the properties of the ex-King of Oude. (4) To have the drains kept properly clean, and to remove all weeds and jungle which obstruct them.

220. **DARJILING CIRCLE.**—Surgeon Major *J. J. Wood*, Deputy Sanitary Commissioner.—The sanitary inspections:

<i>Darjiling district.</i>		
Thanas.	No. of villages.	
Darjiling	... 12	
Kurseong	... 4	
Kalimpong	... 1	
	—	
	17	
	—	
<i>24</i>		
<i>Jaipauri district.</i>		
Jaipauri	... 1	
Mynaguri	... 1	
Dubguri	... 1	
Keranti	... 1	
Shikarpur	... 2	
Boda	... 1	
	—	
	7	
	—	
<i>Rungpore district.</i>		
Dimala	... 2	
Jhaldaka	... 2	
Kaliganj	... 2	
Darwani	... 1	
Kumargunj	... 1	
Nisbutgunge	... 2	
Nageswari	... 1	
Myganj	... 2	
Molong	... 1	
Sadullapur	... 2	
Pirganj	... 1	
Gobindganj	... 3	
	—	
	20	
	—	

<i>Bogra district.</i>		
Thanas.	No. of villages.	
Sibganj	... 2	
Bogra	... 13	
Adamdighi	... 2	
Sheriakandi	... 2	
Dhunat outpost	... 3	
Sherpur	... 2	
	—	
	24	
<i>Pubna district.</i>		
Serajgunge	... 4	
Raiganj	... 1	
Ulapara	... 1	
Shazadpur	... 2	
Pubna	... 1	
	—	
	9	
<i>Rajshahye district.</i>		
Nattore	... 1	

Commissioner.—The sanitary inspections of this Officer extended over only four towns and 78 villages in the thanas in the districts named in the margin. He does not appear to have inspected any village in thana, Sundergunge in Rungpore, to which his vaccination duties took him; and although he visited 124 villages for the same purpose in the above marginally-named thanas, including Sundergunge, he limited his sanitary inspections to only 78 of them, taking only one to four villages in each thana for this purpose, Darjiling and Bogra excepted, where 12 and 13 villages were inspected, respectively. His report is very meagre, and loses much of its value by its extreme brevity. It furnishes no special account of the sanitary status of the thanas inspected by him. On this point it merely tells us that the sanitary conditions of the villages in the different registering circles visited do not exhibit much difference, and that they are almost precisely alike, and are all bad. It then dwells upon the sickness which prevailed in some of them, showing where cholera and fever exhibited themselves to a more or less extent, and men-

tions that the drinking of water in which jute had been steeped was believed to have caused bowel-complaints, fever, colds and cholera; that goitre is very prevalent, chiefly among women; that rheumatism, to which his special attention was directed, was not very commonly prevalent; and that, on the whole, the general health was good. Further on in his report Dr. Wood states that instructions and advice on sanitary matters were tendered by him to the people, particularly with regard to keeping the water-supply unpolluted, and to the necessity of observing cleanliness in and around dwelling-

222. *Assistant Surgeon Jogendro Nath Bhuttacharjee, Deputy Superintendent.*—

<i>Rajshahye district.</i>		<i>Bogra district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Burigram ...	1	Adamdighi ...	3
Beaulah ...	2	Bogra ...	5
Natore ...	10	Khetlal ...	4
Lalpur ...	8	Shibganj ...	3
Panchupore ...	9	Panchbibi ...	5
Nougaon ...	11	Nowabgunge ...	4
Putea ...	9		—
Charghat ...	8		24
Godagari ...	3		—
	61		—
	—		—
<i>Rungpore district.</i>		<i>Pubna district.</i>	
Niabutgunge ...	8	Serajgunge ...	12
Nagoswari ...	5	Neemuagor ...	3
Borobari ...	9		—
Mygunj ...	2		15
Molong ...	2		—
	26		—
	—		—

This Officer inspected, for sanitary purposes, one town and 126 villages in the thanas in the districts named in the margin. The observations made above with regard to the report of Deputy Superintendent Tajumul Hossein also apply to that of this Officer. Dr. Wood's abstract of his report is summarized below. *Dwellings and Domestic cleansing*—In **Rajshahye** and **Pubna** most of the villages are situated on low land, and are subject to flooding during heavy rains. The soil is alluvial and damp. **Rungpore** and **Bogra** are drier, and the soil is generally clay or clay intermixed with sand. The houses, as a rule, are constructed of reeds or smashed bamboos plastered with mud and they are not overcrowded; but their compounds are kept invariably filthy and refuse, sweepings, cowdung, &c., are heaped behind every house. There are no latrines. *Drainage* is defective. The roadsides are not properly drained. *Water-supply* is taken from rivers, tanks and wells. The chief sources of pollution are washing and bathing in the vicinity of wells, and placing branches of trees with leaves in rivers for the purpose of catching fish. *Disposal of the dead*.—The Hindu dead are cremated on the banks of rivers and bhis, and the Mahomedan dead interred in the compounds of dwelling-houses. *Jute-steeping* is carried on in parts of **Rungpore** and **Rajshahye**. *Registration* was tested in the manner laid down in the rules on the subject. *General health of Rajshahye and Pubna* was, on the whole, good. In **Rungpore**, cholera prevailed epidemically in several villages. *Advice tendered*.—The people were recommended to keep the compounds of their houses clean; to throw the sweepings, &c., at some distance and to cover them with earth from time to time; and to discontinue the practice of washing and bathing near wells, and of placing branches of trees in the rivers. *Recommendation*.—The Deputy Superintendent suggests that the Road Cess Department be required to pay attention to the roads which are not provided with side-drains.

223. *RANCHI CIRCLE.—Assistant Surgeon Kasi Nath Ghosh, Officiating Deputy Sanitary Commissioner.*—

<i>Lohardugga district.</i>		<i>Manbhum district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Ranchi ...	54	Chowparan ...	22
Sili ...	27	Bagailhar ...	15
Tamar ...	6	Dumri ...	13
Khauti ...	19	Simuria ...	12
Kera ...	32	Chatra ...	24
Manda ...	22	Huntergunge ...	30
Lohardugga ...	16		—
Chatterpur ...	21	Total ...	378
Garwa ...	9		—
Daltongunge ...	16		—
Manka ...	4		—
Total ...	226		—
	—		—
<i>Hazaribagh district.</i>		<i>Singbhum district.</i>	
Ramgurb ...	24	Seraikola ...	18
Jagowar ...	4	Chyebassa ...	57
Tandowa ...	48	Chuckurdharpore ...	5
Hazaribagh ...	33		—
Giridih ...	61		80
Kharakdiha ...	75		—
Garwa ...	17		—
	—		—

tions which were issued in the matter, and possesses considerable sanitary value. The following is a *resumé* of the chief matters dealt with in it:—

224. **Lohardugga DISTRICT**—**RANCHI thana**.—The villages in this thana are, with a few exceptions, situated on elevated ground, and small hills exist in proximity to some of them. *Dwellings and Domestic cleansing*.—The dwelling-houses are built with mud, and roofed partly with thatch and partly with tiles, on low plinths, sometimes scarcely half a foot above the surface of the ground. They are however, with a few exceptions, free from damp. There is very little jungle, but undergrowth and rank vegetation surround them. The sleeping rooms are ill-ventilated and overcrowded at night, and portions of them are also used by the poor for housing cattle at night, which otherwise are kept in separate sheds, but close to the sleeping rooms. The village pathways are used as latrines by the children. In several villages there are pits and excavations in which cowdung is accumulated, which is removed only once a year, about March or April, for manuring the fields. Cattle dung, in various stages of decomposition, and house sweepings are also met with heaped close to almost every house. The people defecate anywhere and everywhere. The Koeri, Kurmi and Goar tribes appear to have some pretension to personal cleanliness, and wash their bodies every third or fourth day; but the Kols are said to bathe once in a fortnight or so, and their bodies are very dirty. *Roads and Drainage*.—The village pathways are kutchas, narrow and drainless. In villages situated on elevated ground the natural drainage is efficient during the rains; but in the low-lying ones it is defective, stagnation of water takes place, and the ground gets, in some places, moist and sodden. Generally, surface drainage and washings find their way into the surrounding rice-fields, or, in some instances, into the bandhs and tanks. *Water-supply* is generally obtained from kutchas wells, the margins of some of which are surrounded with loose stones, but all are used promiscuously for all purposes. In some villages it is taken from *daris* (natural springs) and small hill streams; but the former are open and unprotected, and subject to contamination in various ways. Bandhs or tanks are found in many villages, but they are mostly used for the washing of cattle and clothes. It is, however, gratifying to learn that some of these bandhs, in a few villages, have been set apart for drinking purposes; but they are liable to pollution by surface drainage. *Disposal of the dead*.—The Hindu dead are cremated on the banks of the river Subarnarekha, or on the side of any other stream or water-course. The Kols burn their dead on the fields adjacent to their dwelling-houses. The interment of the Mahomedan dead takes place in waste lands, or in gardens close to the villages. *General health*.—Outbreaks of cholera are rare in some, and quite unknown in many, villages. Fever is the ordinary complaint. The majority of the people are poor and insufficiently clad. They live upon rice and dāl grown by themselves. *Jute-steeping* is carried on in the bandhs or jhoras, and a jungly plant called *aitta*, is also steeped in some villages.

SILI thana.—The villages in this thana are scattered and situated, some on elevated, and some on low ground. *Dwellings and Domestic cleansing*.—Some villages are very filthy, and their pathways covered with rubbish and refuse. The cattle are housed in the compounds of dwelling-houses or in sheds close to the sleeping rooms, and their dung is used as fuel or stored in heaps behind the houses, for manure. *Water-supply*.—Rivers and *daris* are the chief sources of drinking water, and bandhs and marshes are utilized for the washing of clothes, cooking utensils, and cattle. The latter are often covered with weeds, and their banks over-grown with low vegetation. In some villages the rivers Uraongurha and Subarnarekha are resorted to when the *daris* dry up in the hot weather. Their water is said to be good; but they dry up during the summer, and then their beds are dug to supply the want. Rivulets are also utilized, but the dead are often cremated on their banks, and clothes and cattle are washed in them. A few villages obtain their drinking water from kutchas wells the surroundings of which are filthy. In village Sili there are two pucca wells which are protected by parapets and reserved exclusively for drinking purposes, and in village Raha there is a tank, but it is polluted. *Jute-steeping* is carried on in tanks and bandhs in many villages.

TAMAR thana.—*Dwellings and Domestic cleansing*.—The villages are generally filthy, and in some the houses are crowded together and ill-ventilated internally. Defecation is promiscuous, and as a rule, house refuse, ashes, &c., are heaped behind houses. *Drainage* is generally

defective, but where the ground is undulating, it is helped. *Water-supply* is taken from bandhs, daris and rivulets, all which are polluted in various ways. The bandhs, where large, promote ground dampness. Wells exist in some places, but they are kutchas and used promiscuously. *Disposal of the dead*.—The Hindu dead are cremated behind the houses, or on the sides of water-courses from which drinking water is taken. In some villages the dead are both interred and cremated a short distance away from them. KUNRI thana.—*Domestic cleansing*.—The same defects, as above mentioned, were observed under heads “*Water-supply*” and “*Domestic cleansing*” in all the villages in this thana. *Drainage*.—The general undulating nature of the ground on the ridges of which the villages are, as a rule, situated, help to drain them, more or less completely, during the rains. *Water-supply*.—Most of the villages depend upon daris as the chief source of their water-supply for all purposes; and a few only have bandhs, small streams and kutchas wells. The bandhs, however, mostly dry up long before the hot weather sets in, and they and the streams are polluted by the washing of clothes and cattle in them. In some villages there are only small tanks which are contaminated in various ways. *Disposal of the dead*.—Cremation of the dead is, as a rule, performed in the fields adjacent to the villages, and in only a few villages are the bodies removed to the banks of some rivulet or water-course for the purpose. In the Christian villages the burial-grounds are situated at some distance from them, and generally these villages were found in a comparatively cleaner condition. *Jute-steeping* is practised in some villages in this thana. KERA thana.—*Dwellings* and *Domestic cleansing*.—The pathways are filthy. Cowdung is partly used as fuel and partly stored in heaps for manuring the fields. Promiscuous defecation and accumulation of cowdung and house refuse of all sorts close to sleeping rooms obtain in all the villages of this thana. In their persons the people are generally very filthy. *Drainage*.—The natural drainage appeared to be more or less free owing to the elevated position of the village sites. *Water-supply*.—Many villages have to depend entirely upon daris for their water-supply for all purposes, but a large number of them have bandhs or nullas close by to wash and bathe in. It is only in the hot weather, when some of the bandhs dry up, that the daris are promiscuously used for all purposes, and their water thus rendered unfit for drinking. Wells, pucca and kutchas, are met here and there. In village Kera one of the two pucca wells, the water of which is pure and wholesome, is reserved exclusively for drinking purposes. *Disposal of the dead*.—Cremation is carried on generally on the fields, but in village Kera some of the dead bodies are conveyed to the river Chutla, two miles off, for cremation. MANDA thana.—*Dwellings* and *Domestic cleansing*.—The arrangements under this head in this thana exhibit under this head, in some respects, a contrast to the general rule. The interior of the houses is generally in a pretty clean condition, but they are ill-ventilated. The cowdung is removed to a distance and deposited in pits, in gardens, or fields. The house-sweepings and rubbish are burnt at intervals; but defecation is promiscuous. *Drainage*.—The villages in this thana are situated on elevated ground, and consequently their natural drainage is more or less free by discharge into the adjacent fields. *Water-supply* is had from daris, rivulets, kutchas wells and tanks, and, in a few places, from the river. In some villages tanks are set apart exclusively for drinking purposes. The daris and wells are promiscuously used, and their water is consequently impure and unfit for drinking. The river water is considered pure. *Disposal of the dead*.—The cremation of the dead is conducted in adjacent fields. *General health* was good. LOHARDUGGA thana.—*Dwellings* and *Domestic cleansing*.—The villages are, as a rule, situated on rising ground, and the dwelling-houses are mostly mud-walled, and roofed partly with thatch and partly with tiles. The sleeping rooms are dark and ill-ventilated. The cattle are kept in sheds close to, and, by the poorer classes, in, the sleeping rooms. Cowdung is accumulated for manure, and house-sweepings and refuse straw are thrown about. *Water-supply* is taken from daris, wells and bandhs. The bandhs are used for washing and bathing purposes; but the daris and wells are also promiscuously used in some places, and their water is consequently rendered unfit for drinking. *General health* was good. CHUTTURPUR thana.—*Domestic cleansing*.—Jungles abound in the vicinity of the majority of the villages in this thana, particularly of those on the west and south of the police-station. They are,

with rare exceptions, kept in a dirty and filthy condition, chiefly by the accumulation of cattle-dung and refuse straw. *Drainage*.—The villages being situated on elevated ground, the natural drainage is efficient during the rains.

Water-supply.—Drinking water is obtained from pucca and kutchha wells and daris, the latter being in most instances the only source of water-supply in the villages in the south. In a few villages it is taken from small streams and tanks, the latter being generally resorted to for bathing and washing purposes. The water in the villages in the south and west of the police-station is reported to be of bad quality, and to be the cause of the great prevalence of fever in those localities. The quality of the water in the villages on the east is reputed to be good. *General health* was fair. **GARWA thana**.—

Dwellings and Domestic cleansing.—The villages are situated on elevated ground, and therefore drained efficiently during the rains. They are in a more or less clean condition. The dwelling-houses are built with mud, and their roofs are mostly thatched with foos. Many of the houses are used as shops or chattees, and the rooms are overfull with the various articles which are vended, and still they are used to sleep in at night. *Water-supply*.—In Sukbona, which is a poor and scattered hamlet, drinking water is obtained from a dari; but in all the rest of the villages it is taken either from wells, some of which are pucca, or from the nearest rivulets.

General health was good. **DALTONGUNGE thana**.—The villages in the north and west of this thana are kept pretty clean, the cattle-dung and refuse straw, the chief elements of village defilement, being burnt as fuel. Drinking water-supply of these villages is principally obtained from wells, many of which are pucca and protected by parapets. There are bandhs also in some of the villages, but they are used for washing and bathing purposes. In Chainpur there is a good tank and several pucca and kutchha wells. In Bahmundihi there are two pucca wells and a tank. Many people of Suhapur and Simatand drink from the river Koel. On the other hand, most of the villages which are on the far south of the town are in the proximity of jungles. Their situation on elevated ground helps to drain them freely during the rains; but they are in a dirty condition. The cowdung and house-sweepings are kept in heaps in the front and backyards of almost every house. Pucca wells in a few, and kutchha wells in all the rest supply the drinking water, and bathing and washing are carried on in rivulets or jhoras. There are no bandhs or tanks. Defecation and cremation of the dead are chiefly performed on the river-side.

General health was good. **MANKA thana**.—*Domestic cleansing*.—The villages are remarkably filthy. Heaps of decomposing cowdung and rubbish of all sorts are to be seen close to every house. *Water-supply* is bad and scanty. It is taken from wells, daris and jhoras. The wells are generally used for all purposes, and their surroundings kept in a dirty condition. In an outbreak of cholera in some of the villages in this thana, the Deputy Superintendent advised the people as to how cholera stools and the bedding, &c., of the deceased should be disposed of, and pointed out to them the importance of domestic cleansing and uncontaminated drinking water.

225. **MUNICIPAL INSPECTIONS in the Lohardugga District**.—**GARWA** is a rural town containing about 900 houses. It is situated on the western side of the branch of the river Koel, on elevated ground sloping towards the north and east. *Dwellings and Domestic cleansing*.—Some of the houses are brick-built, and the others mud-walled with tiled roofs. They are ill-ventilated, and mostly line the sides of the main roads of the town. The streets and pathways are kept clean. There are two public latrines, and a conservancy cart is maintained. There are private privies which are cleaned by mehtars employed by their owners. The night-soil is thrown on distant fields. *Roads*.—The main roads are pucca, broad and provided with shallow side drains. *Drainage*.—The natural drainage is good, and the drains of the town are kept clean. *Water-supply* is taken from the rivulet in the north and east, and from pucca wells. There is a tank in the north behind the police-station, but it is utilized only for bathing and washing purposes. **DALTONGUNGE**.—*Dwellings and Domestic cleansing*.—This town is situated on elevated ground which slopes towards the river Koel on the west. It contains a large number of houses, many of which are brick-built, but roofed with tiles. The streets and pathways are regularly swept and kept clean. There are two public latrines and two conservancy carts. The private latrines, which are

surface ones, are cleaned by private mehters. The night-soil is thrown on distant fields. Those who have no privies of their own and do not frequent to the public ones, resort for defecation to adjacent fields or to the sides of the river. *Roads*.—The streets and pathways are mostly pucca, and are provided with shallow side-drains, which are kept clean. *Water-supply*.—This is taken from the many pucca wells in the town and from the river Koel, the water of which is reported to be of good quality. There is also a tank near the charitable dispensary, but it is resorted to only for washing and bathing purposes.

226. **Hazaribagh DISTRICT**.—**RAMGURH thana**.—*Domestic cleansing*.—Personal cleanliness is not observed, and the villages are, without exception, kept in a dirty condition by promiscuous defecation and accumulations of cowdung, and house-sweepings anywhere and everywhere. *Drainage*.—The villages being invariably situated on elevated ground, the natural drainage is more or less free. *Water-supply* is from rivers, daris, nullas, bandhs, wells and shallow tanks. The water from these sources is more or less polluted. *Disposal of the dead*.—The practice in the majority of the villages is to remove the dead for cremation to the banks of some rivulet or water-course. In some villages this process is carried on close to the villages. *General health* was good. **JAGESWAR thana**.—*Domestic cleansing*.—Some of the villages are situated in jungly and hilly tracts. They are for the most part in a filthy condition, with heaps of decomposing cowdung behind, and against the walls of, the dwelling-houses, and with the pathways covered with refuse, straw and rubbish of all sorts, as well as with human excreta. *Water-supply*.—The drinking water is generally obtained from kutchas, and in a few cases pucca, wells with filthy surroundings, which are promiscuously used for all purposes. Small streams and shallow pools of dirty water are also used. *Jute-steeping* is carried on in streams and rivulets. *Disposal of the dead*.—In this thana dead bodies are cremated in adjacent jungles. **TANDOWA thana**.—*wellings* and *Domestic cleansing*.—The houses are built of mud, and mostly have tiled roofs, and are ill-ventilated and crowded at night. The villages, with some exceptions, are kept in pretty clean condition, the house-sweepings and rubbish being burnt at intervals, and the ashes, refuse, straw and cattle-dung deposited for manure in pits in the fields at a distance. In some villages the cowdung is used as fuel. In village Burkagaon there are well-privies, but they are never cleaned. As a rule, the fields are resorted to for defecation. *Drainage*.—The villages being mostly situated on high ground, the natural drainage is free. *Water-supply* is obtained from rivers, wells, daris, bandhs and nullas. The bandhs are generally used for washing and bathing purposes. Some of the wells are pucca and protected by parapets, but they are promiscuously used, and dry up in the hot weather. The running streams are polluted by the washing of clothes and cattle, and by defecation on their banks. *General health* was good. **HAZARIBAGH thana**.—*Dwellings* and *Domestic cleansing*.—In point of construction the houses are the same as in other thanas. The village sites are more or less free from jungle, but the villages themselves are generally filthy. Rubbish and refuse are accumulated on the pathways, and heaps of decomposing cowdung are to be met with. *Drainage*.—The villages being mostly situated on elevated ground, and the ground being undulating, the drainage appeared to be efficient, the rain-water escaping into the adjacent bandhs, nullas, or rice-fields. *Water-supply* is taken from bandhs, daris, nullas and wells. The bandhs are covered with weeds and vegetation, and although the rain-water flows into them, rendering them prejudicial to health, they make up for the deficient water-supply from other sources in most villages. Washing of clothes, cattle, and cooking utensils generally takes place in them, and in the hot weather most of them dry up, and it is then that the wells, which are for the most part katchas and unprotected, are used promiscuously for all purposes, and their water rendered impure and unfit for drinking. The nullas are invariably polluted by the washing of buffaloes in their shallow streams and the cremation of the dead on their banks. The daris are situated mostly on low land, and are subject to contamination by surface drainage. There is a hot spring in village Echak which is resorted to, but its water is never used for drinking. *Jute-steeping* is carried on in a small scale in village Echak. **GIRIDHI thana**.—*Domestic cleansing*.—The villages are, as a rule, filthy. There are no proper pathways. Accumulation of house-refuse and rotting cowdung

near the dwelling-houses and promiscuous defecation are common. *Drainage.*—The villages being, as a rule, situated on elevated ground, the drainage is more or less free during the rains. *Water-supply.*—The rivers Oosri and Burakur, several rivulets, nullas, daris, bandhs and kutchha wells are the sources of water-supply. The rivers are chiefly used for washing and cleansing purposes. On the whole, the water-supply is impure, the sources being polluted in the manner described above. *Disposal of the dead.*—The dead are generally cremated on the banks of rivulets. *General health* was good. KHARAKDIHA thana.—*Dwellings and Domestic cleansing.*—With a few exceptions, the villages are small, and consist of clusters of tiled and thatched huts. The villages and the pathways are generally filthy, mainly caused by a much larger number of cattle being kept than the villages can accommodate. Cowdung and refuse heaps are common. The utilization of cowdung as fuel is observed in a limited number of the villages. In many villages the houses are crowded together and generally ill-ventilated internally, even the entrance doors being too small to admit a liberable amount of air and light. Promiscuous defecation is general. *Drainage.*—The natural drainage is more or less free, and discharges into the surrounding rice-fields, or in some cases into the bandhs or nullas. Some of the roads are provided with shallow side-drains, which are, however, obstructed. *Water-supply* is from nullas or small streams, daris, bandhs and wells of which some are pucca. Generally the villages, situated on the east of Kharakdiha and in the Dhunwar and Biruch outposts, are provided with wells; those on the west depend upon nullas, and those on the north and north-east upon daris. The bandhs are utilized for washing and bathing purposes. The daris and the wells, most of the latter of which are not protected by parapets and have filthy surroundings are promiscuously used. *Disposal of the dead.*—Cremation is generally carried on on the banks of the nearest rivulets, the water of which is used for many household purposes,—in some instances even drinking. *Jute-steeping* is carried on in some villages in the outpost of Biruch. *General health* was good. GARWA thana.—The condition of the villages in this thana is essentially the same as in thana Kharakdiha, with the differences, that they are for the most part in close proximity to hills and jungle, and that a large number of the dwelling-houses are in a dilapidated condition. The *water-supply* is taken from daris, nullas and wells, all of which are polluted in various ways. CHOWPARUN thana.—*Domestic cleansing.*—The villages in this thana are for the most part close to hills and jungle. They are in a filthy condition, chiefly resulting from accumulation of cattle-dung and house-sweepings. *Drainage.*—Its elevated position helps to facilitate natural drainage. *Water-supply.*—This is mostly obtained from small hill streams and nullas, and is used for all purposes. There are also a few wells. The nullas and the hill streams are polluted by the washing of cattle in their scanty water, and the cremation of the dead on their banks. *General health.*—Fever prevails greatly from August to November. There is an extensive chuttee (Chowparun chuttee) in this thana situated on the Grand Trunk Road, which consists chiefly of mud-walled and tile-roofed houses erected in rows on both sides of the road extending over nearly a mile, and also of a few brick-built structures. This road is provided with shallow side-drains which are kept pretty clean. The cartmen, who use this road as their staging place, sometimes render it filthy. Drinking water is obtained from a number of pucca wells protected by parapets; from a tank on the north of the chuttee, the water of which, used mainly for bathing and washing purposes, is filthy and contaminated by defecation being freely carried on in the field adjacent to it; from two bandhs close to the police-station on the east, which contain water of good quality, and is used by many people; and from a pucca well in the compound of the police-station, which is reputed to contain the best drinking water in Chowparun. There is a camping ground for soldiers on the south of the chuttee, which was in a clean condition. BAGODIHA thana.—*Dwellings and Domestic cleansing.*—The villages in this thana are situated, some in the midst of open rice fields, and some in the vicinity of jungles. They are, as a rule, filthy; refuse, straw, cattle-dung and house-sweepings being accumulated in different places. *Drainage.*—The natural drainage is free in most of the villages. *Water-supply.*—Wells, daris and nullas are the sources, all of which are polluted in various ways. *General health*

was good. **DUMRI thana**—*Domestic cleansing*.—The villages are for the most part hilly and jungly, and their general condition is much like that of those in Ranchi thana. Cowdung is stored as manure in them, and defæcation is promiscuous. *Drainage*.—The villages being situated on elevated ground, the natural drainage is free. *Water-supply*.—This is obtained from wells, nullas and daris. The level of the well water is at a considerable depth below the surface of the ground. *Health*.—The outpost of Churki is notoriously feverish. **SIMURIA thana**.—*Domestic cleansing*.—The villages are for the most part in a pretty clean condition. The house-sweepings and rubbish are burnt at intervals, and the cowdung removed to the fields. *Drainage*.—The natural drainage of the villages which are situated on low ground is defective, but that of those situated on high ground is free. *Water-supply* is obtained from daris, pucca and kutchha wells, bandhs or tanks. Most of the last dry up in the hot weather, and then the daris and wells are used promiscuously for all purposes, and their water polluted to a great extent. *General health* was good. **CHATTRA thana**.—*Dwellings and domestic cleansing*.—The villages are generally situated at the foot of hills with jungles in their vicinity. The dwelling-houses are for the most part small thatched huts, and generally in a dilapidated condition, only a few villages containing tiled huts of better structure. They are generally dirty, which is chiefly due to accumulations of dung of cattle and pigs which are kept in the compounds of dwelling-houses. *Drainage*.—This is generally good, except in villages situated on low ground. *Water-supply* is from rivers, nullas, daris and wells some of which are pucca. Bandhs and tanks are scarce. The river water is good, but is polluted in some places by jute-steeping and bathing of cattle. *General health* was fair. **HUNTERGUNGE thana**.—*Dwellings and Domestic cleansing*.—Some of the villages are situated at the foot of the hills, some on elevated positions, and a few on low ground. Jungle abounds in places. The dwelling-houses consist of mud huts, partly roofed with thatch and partly with tiles, and many of them are in a wretched condition. There are pucca houses in some villages. The sleeping rooms are ill-ventilated and crowded with various articles. With some exceptions, the villages are kept in a pretty clean condition, the cowdung being thrown on the fields at a distance, and the house-sweeping, refuse, straw, &c., collected and burnt at intervals. *Water-supply*.—This is obtained from rivers, nuddis, daris, wells and bandhs. The river water is polluted with human ordure, and is generally used for bathing and washing of clothes and cattle. The wells are contaminated by bathing and washing of cooking utensils near them. *Disposal of the dead*.—Cremation of the dead is conducted on the riverside. *General health* was good.

227. MUNICIPAL INSPECTIONS.—Hazaribagh DISTRICT.—**LECHAK**, an old rural town, contains numerous mud-walled houses with tiled roofs, and several pucca ones constructed in the old style almost without windows. They line the road-sides. *Roads*.—These, although narrow, are sufficient in number, and several of them are pucca, and provided with shallow side-drains. *Domestic cleansing*.—The town is becoming overgrown with low vegetation since its abolition as a union. A few houses are provided with privies, which, however, are never cleaned, and the majority of the people resort to the adjacent fields for defæcation. Cowdung is partly utilised as fuel and partly stored for manure outside the limits of the town. *Water-supply*.—There are many pucca wells, and a tank in a tola called Porasi. The water of this tank is used only for bathing and washing purposes. The wells are indiscriminately used. *Disposal of the dead*.—The dead are cremated on the banks of a rivulet. **GIRIDHI town**.—*Drainage*.—This town is situated on sloping ground, extending from the south to the north and north-east. It is divided by the Hazaribagh road into a northern and southern portion, and the natural drainage of its southern portion discharges into the side-drains of this road; but it has become defective from these drains having been neglected of late, and from a subterranean drain, which traverses the station and conveys surface water into the Railway tank, having become choked. The drainage of the northern portion finds its way into the adjoining rice-fields. The road-side drains are shallow and have been obliterated in some places and are deep and overgrown with vegetation in others. The consequence is that the rain water collects in the hollows and renders the soil very damp. This dampness is probably one of the causes of the fever which has been persistently prevailing in

the town of late years. *Dwellings and Domestic cleansing.*—There are a few pucca buildings, but the rest are mud-walled with tiled roofs, erected on low plinths, and are ill-ventilated. About a fourth of the population have got surface privies, most of which are regularly cleaned; but the night-soil is thrown on the adjacent fields. Defecation is carried on by the majority of the people on the road-sides and fields or in any convenient or hidden corner. The sweepings and house-refuse are accumulated in the backyards of almost every house, or thrown into any ditch or hollow which happens to be near at hand. The quarter of the town known as the gowalapara, or where gowallas dwell, situated in its very heart, and where a large number of cows and buffaloes are kept, is most filthy. The cattle-dung is heaped up and allowed to rot and wash down into the streets in the rainy season. The offal, &c., of the Railway Bazar slaughter-house are thrown on the adjoining fields. *Disposal of the dead.*—The Hindu dead are cremated on the banks of the river Oosri on the north of the town, and the Mahomedan dead are interred in a piece of waste land by the side of the Serampur road on the east. *Water-supply.*—This is obtained from wells, most of which are pucca and well protected by parapets and surrounded with masonry platforms; but they are used promiscuously for all purposes and their cones of percolation are filthy, and yet their water, the level of which is within 4 or 5 feet of the surface of the ground, is reputed to be of good quality. The Railway has a tank, and there is another tank or bandh; but both of these are scarcely used by the people.

DHANWAR town.—*Dwellings and Domestic cleansing.*—This is a small rural town, and the seat of a zemindar. It is pretty thickly populated, and contains besides a large number of mud-walled and tile-roofed houses, about 50 pucca buildings. A number of these houses is erected in lines on the road-sides and are used as shops by the people. Many people have surface privies which are cleaned by mehters; but the majority resort to the adjacent fields for defecation. The night-soil from the privies is thrown into a rivulet on the south. There are a few well-privies which are never cleaned. *Drainage.*—The roads are kutchha and narrow, and are provided with shallow side-drains which are kept pretty clean; but they are obstructed in some places by rubbish. *Water-supply.*—Drinking water is obtained from wells, several of which are pucca and provided with parapets; but they are also used for all other purposes. *Disposal of the dead.*—The Hindu dead are cremated on the banks of a rivulet half a mile off, and those of the Mahomedans are interred in a plot of waste land about a mile from the limits of the town.

SERAMPUR town.—This is a small rural town, and the seat of an outpost of thana Giridhi. There are a few pucca buildings belonging to the zemindars, but the rest of the houses are mud-walled and tile-roofed, erected chiefly in rows on the sides of the Serampur road. *Domestic cleansing.*—The interior of the town is in a tolerably clean condition. The cattle dung is removed and thrown on the field at a distance, and the house-sweepings burnt at intervals; but promiscuous defecation is general. *Water-supply.*—Drinking water is obtained from wells, many of which are pucca and their margins surrounded by parapets; but they are, with rare exceptions, also used for all other purposes.

CHATRA town.—Besides the quarter known as Bind and the town itself, which are close to each other, the Municipality of Chatra includes the villages of Darjibegha, Raghubordih, and Kissunpur. *Drainage and Roads.*—The town is situated on elevated ground sloping towards the north-east, in which direction the greater portion of the surface drainage flows and ultimately falls into the Heroonuddi running on the east. The Bind portion is, however, situated on comparatively low ground, and its drainage is so very imperfect, that its lanes and pathways remain under water during the rains. The drainage of the villages Darjibegha, Raghubordih and Kissunpur escapes into the adjoining fields. The roads are both pucca and kutchha. The sudder road, which is the widest and best road in the town, is provided with shallow pucca drains, which are kept in a clean condition. Pucca side drains have also been provided for the Bind road, the godown road, and for portions of the Marwaritola and Chuttaloo roads. The side drain of the Chuttaloo road is short in length, runs on its one side only is dangerously deep, deficient in level, full of vegetation, and kept in a very dirty condition. The drains of the Bind road and the godown road are also defective in level and full of vegetation. The rest of the roads

are provided with kutchas, shallow side drains, most of which are properly levelled and kept clean. But the drains by the side of the new road are full of dry leaves from trees, and the Sunghat lane as well as the byepaths in the interior of Bind, are drainless and dirty. *Dwellings and Domestic cleansing.*—Most of the pucca roads in the town are regularly swept every day. The dwellings, many of which are brick built, are erected so close to each other as to preclude perfusion of air. *Conservancy.*—The conservancy establishment consists of 23 sweepers, mehters and cartmen, and there are five carts and six bullocks; but only four of the carts are used. There are three public latrines, but no urinals. The latrines are pucca and kept in a pretty clean condition; but there are no separate latrines for the females. The night-soil is neither trenched nor deposited in any fixed place. *Water-supply.*—The drinking water is obtained from several pucca wells, which are provided with parapets and surrounded by masonry platforms. Some of these wells are, however, situated on low land and their surroundings are filthy: The water of the well in Katolia is reputed to be the purest and the most wholesome. There are several tanks, but they are used for bathing and washing purposes. The water of the municipal tank, which is situated close behind the dispensary, is drunk by the many travellers who pass through the town. All the tanks, even including the municipal one, are in a more or less dirty condition. The margin of the tanks known as Gonowri Talao and Chut Talao are sufficiently raised to protect them against surface drainage, but not so those of the municipal tank. The water in the tanks along the thana and the Bind roads stinks. *Disposal of the dead.*—There are burial-grounds in all directions of the town. The one on the north is close to a pucca well, the water of which is used for drinking purposes. The Hindu dead are cremated on the banks of a nullah on the north-east of the town, but some are removed for cremation to the Heroonuddi about a mile off. *General health.*—Want of drainage and proper ventilation, as well as its generally-dirty condition has rendered Bind the most unhealthy quarter in the Municipality. The majority of the fever cases resorting to the dispensary come from this quarter. The rectification of the sanitary defects of Bind is therefore urgently called for, and cannot be too strongly urged. *Recommendations.*—To clean the municipal tank and protect it against surface drainage by an embankment; to fill up the tanks by the sides of the thana and the Bind roads as soon as funds will permit; to remove the insanitary conditions of Bind; to provide the town with urinals and separate latrines for the females; to fix upon and set apart certain plots of land for the burial of the dead and not to permit interment in all directions of the town; to trench the night-soil in a suitable place, and to cultivate the trenching-grounds.

228. **Manbhum** DISTRICT.—**JHALDA** thana.—*Domestic cleansing*—Generally the villages seen are filthy, chiefly owing to the accumulation of cowdung and house-sweepings. *Drainage* is defective. *Water-supply* is taken from tanks and wells; the former being subject to pollution from surface drainage, and the latter from promiscuous use. **GOVINPUR** thana.—*Dwellings and Domestic cleansing.*—The villages seen in this thana are mostly situated on the north side of the Grand Trunk Road, and are overgrown with jungle. They are generally small, and consist of clusters of thatched huts, and are in a filthy condition from the usual causes. *Water-supply* is chiefly taken from bandhs, daris and nullas. The washings of the villages drain into the bandhs during the rains. Jute-steeping is carried on in them, and they dry up in the hot weather, when daris and nullas are resorted to. *General health.*—It is said that, owing to the bad water-supply, some of the villages in this thana are notoriously feverish from August to December. **NIRSHA** thana.—The villages inspected in this thana consist mostly of small clusters of houses built of mud and thatched with straw, and are filthy from the same causes as obtain in Govindpur thana. The sources of water-supply are also the same as in Govindpur, and are similarly polluted, except that the water of the Khida nuddi is said to be good, notwithstanding that it is polluted by the washing of cattle in it and defecation and cremation of the dead on its banks. **PURULIA** thana.—*Dwellings and Domestic cleansing.*—The villages in this thana are generally small, and consist of clusters of thatched huts, excepting that in a few villages large-sized houses having tiled roofs are to be met with. The houses being scattered, external perfusion of air is not obstructed,

but generally they are ill-ventilated internally. In most instances the greater portion of the sleeping rooms are filled with chattels, and the little space left is overcrowded with inmates. The village pathways, as well as the front and back yards of almost every house, are dirty and unswept, refuse of every description and heaps of ashes and cattle dung lying about them. In some of the villages, however, the cowdung and refuse straw are burnt as fuel. *Drainage and Roads.*—The drainage is generally defective; but during the rains the small streams and nullas drain the villages. The main roads leading to the Purulia town have been planted with a large number of trees. *Water-supply.*—This thana abounds in bandhs or tanks, most of which are said to contain good drinking water, but the greater number of them are not protected from surface drainage during the rains; defecation takes place on their sides; and the washing of cloths, cattle and cooking utensils is carried on in them. Some villages depend for water on tanks only a few of which have been set aside for drinking purposes alone; some on daris; and others on wells most of which are kutchas. *Disposal of the dead.*—The dead are generally cremated on the side of some river or small stream or nulla. *General health* was good.

229. **MUNICIPAL INSPECTIONS.**—**Manbhum** DISTRICT.—**JHALDA** town.—*Dwellings.*—This is a thickly populated large rural town. It ceased to be a Union three years ago. The dwelling-houses are for the most part mud-walled, but there are a few pucca buildings. On the west is a hill called Kalitangri, and, during the rains, water flows down from it, inundates some parts of the town, and collects in its road-side drains. *Water-supply.*—There are ten tanks in the town and many wells only two of which are pucca. A small river, called Saldaho, also flows close by on the east and south. Some of the tanks receive surface drainage, but tank water is chiefly used for cooking and washing purposes. The well water is reputed to be of good quality, but, with a few exceptions, it is rendered impure by promiscuous use. *Conservancy.*—The people who have immigrated into the town have privies which are, however, not cleaned. The rest of the people defecated anywhere and everywhere. The cattle are kept in separate sheds in the compounds of dwelling-houses, and their dung is in some villages stored in heaps to form manure for the fields, and burnt in others as fuel. *Disposal of the dead.*—The Hindu dead are cremated on the banks of the river Saldaho, and the Mahomedan dead are interred in two plots of waste land about a mile off on the east and west of the town respectively. The dead cattle are thrown on a field at a distance, but their flesh is eaten by a tribe known as the Ghasis. *General health* was good.

230. **Singbhum** DISTRICT.—**SERAIKELA** thana.—*Dwellings and Domestic cleansing.*—The villages in this thana are, as a rule, situated on rising ground, some in the midst of open rice fields, and some in the vicinity of jungle and small hills. The dwelling-houses are constructed of mud walls and thatched roofs, without any means of ventilation, and the sleeping rooms, which are also used as store rooms, are overcrowded at night. House-sweepings and refuse straw are kept scattered all about the compounds of houses, and the cowdung is stored for manure in the interior of some of the villages, and at a little distance outside in others. Defecation is promiscuous. *Drainage.*—The natural drainage appears to be free, the surface water finding its way into the adjacent bandhs and small streams. *Water-supply.*—This is principally obtained from bandhs which are polluted by surface drainage, and in various other ways; and in the hot weather, when most of them dry up, water from daris and hill torrents is used for drinking as well as other purposes. A few villages have kutchas wells which are promiscuously used and their surroundings kept in a dirty condition. *Disposal of the dead.*—The dead are generally cremated on the fields adjacent to the dwelling-houses and in some cases they are taken for the purpose to the side of some nulla. *General health* was fair. **CHYEBASSA** thana.—The condition of all the villages in the Kolhan is almost alike. A general idea of it will be had from the following description of those in thana Chyebassa. *Dwellings and Domestic cleansing.*—The villages are invariably situated on elevated ground either adjacent to rice fields or at the foot of small hills, and low jungle abounds in the outskirts of many of them. The dwelling-houses are erected under large tamarind, peepul and plum trees, which have been planted for useful purposes, and which form a prominent feature of a Kol village. *Arni* plants are also largely cultivated in the villages, from the seeds of which oil is pressed out

for domestic use. These houses are generally small huts on low plinths, walled with mud and thatched, and the walls, being neatly built and painted outside with white, ash or yellow color, present a pretty, picturesque appearance which diverts the attention of a superficial observer from the filthy condition of the localities on which they stand. Excepting the small entrance door, the sleeping rooms have no other openings for ventilation, and they are consequently practically dark. The space in them, insufficient of itself for the accommodation, without crowding, of its inmates, is partly occupied by goods and chattels of various kinds, and the poorer people also keep their poultry in them. Hence the stagnant atmosphere of a Kol sleeping room would in no time become acutely poisonous were it not for the light structure of the thatched roof, through which a certain amount of air is let in which helps to dissipate, to some extent, the impurities. Holes not more than a foot square, barred with pieces of bamboo, have, however, been introduced into the walls of some of the recently-constructed houses. Goats, pigs, ducks and fowls are kept in large numbers in sheds erected close to the sleeping rooms, and their droppings are found scattered all over the compounds. Cowdung is also stored in heaps in the front and back yards of almost every house, and house-sweepings and refuse straw are massed in every corner. The dry leaves from trees form an additional source of uncleanness. Defecation is promiscuous in all the villages. *Water-supply.*—This is principally taken from *daris* and from *bandhs*, rivers, nullas and *kutchas* wells. The *bandhs* receive surface drainage during the rains; washing of clothes and cattle and steeping of jute are carried on in them, and most of them dry up in the hot season; but they, as well as the nullas, are scarcely used for drinking purposes. The *daris* are kept scrupulously free from pollution, even the washing of hands and feet in them is not tolerated, and villages which have no other source of water-supply than *daris*, collect their water, as it drains out, in a pool at some distance for the use of the cattle and for washing purposes; but in the hot weather, when some of the *daris* dry up, the want of water is greatly felt. When this occurs, the villagers, particularly those in Choraipur, Bankolapur and Goukevapur, fetch water from rivulets flowing at a considerable distance. *Disposal of the dead.*—The dead are cremated by the Kols in the compounds of their dwelling-houses, and by the Ghasis and Kurmis at a distance on the fields. *Food.*—The Kols generally live upon one meal in 24 hours, which is taken at night and consists of rice and *dāl*. In the daytime they drink freely a fermented liquor made from beaten rice with the addition of a vegetable powder called *ranu* or *bukhor*. They are very fond of meat, and do not even hesitate to eat the flesh of dead animals. *General health* was good.

231. *SUGGESTIONS FOR IMPROVEMENTS.*—The following suggestions have been submitted by the Deputy Sanitary Commissioner:—(1) Whenever new houses are to be built, the people should be instructed to erect them sufficiently apart from each other, and provide them with windows, so that free external perfusion and internal ventilation of air will be secured. (2) To see that the cattle are kept in sheds outside the house compounds and not in the sleeping rooms. (3) To discontinue the practice of accumulating cowdung for manure close to dwelling-houses or in the interior of villages, but to place it on the fields at a distance, or use it as fuel whenever practicable. (4) To fill up with rubbish and house-sweepings the pits and excavations that are found in some villages in the Ranchi thana. (5) To induce the householders to keep their compounds in a clean and tidy condition by collecting together and burning down refuse, straw and house-sweepings at intervals. (6) To set apart in each village certain wells, tanks or *daris*, as the case may be, exclusively for drinking purposes, and to keep their surroundings in a clean condition. (7) To sink wells in the localities where there is scarcity of water, and to attend to the water-supply of certain villages in the Kolhan, where scarcity of water is greatly felt in the hot weather. (8) To prohibit promiscuous defecation by fixing upon and setting apart certain waste lands for the purpose. (9) To stop the practice of burying or burning the dead close to villages or on the banks of water-courses which supply the drinking and cooking water. (10) To prevent the people of Kharakdiha from burning their dead on the side of the river Oosri which flows by the village, and supplies it with water for various household purposes. (11)

Not to permit the Kols of Chyebassa to cremate dead bodies in the compounds of their dwelling-houses. (12) To re-establish Municipalities in the towns of Ichak and Jhalda in Hazaribagh and Manbhum respectively. (13) To convert the town of Giridhi into a Municipality, or to remove the sanitary defects which obtain in it at an early date. *Registration*.—With some exceptions, *Registration* was attended to in the usual manner in this Circle, but no good results have yet followed.

232. *Assistant Surgeon Prosonno Kumar Dey, Deputy Superintendent*.—This

<i>Manbhum district.</i>		<i>Singbhum district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Purulia	... 47	Chyebassa	... 14
Para	... 5	Seraikela	... 18
Gourandi	... 3	Chuckerdherpore	... 3
Raghnathpore	... 6	Ghatsilla	... 8
Barabazar	... 6	Total	... 43
Ichagurh	... 8		
Chas	... 8		
Topechanchi	... 3		
Govindpore	... 7		
Nirsha	... 8		
Manbazar	... 7		
Total	... 102		

officer's sanitary inspections extended over five towns and 145 villages in the thanas in the districts marginally named. His report, an abstract of which is subjoined, deals in a general manner, as wholes, with the sanitary conditions obtaining in the districts visited by him.

233. **Manbhum and Singbhum Districts**.—The villages in these districts are, as a rule, situated on high ground surrounded by low cultivated fields, and many have rivers, streams or jores, and some hills and jungle, near

them. *Dwellings and Domestic cleansing*.—The houses are mere huts thatched with straw, and insufficiently ventilated, and their floors are kutcha and low, but still not damp owing to the drainage being free, the ground surface being undulating, and the soil sandy and rocky. The cattle are kept in sheds having insufficient accommodation for them. There is some regularity observed in house construction in Manbhum, as they line both sides of the village roads called hero koalies, whereas in the Kolhan, in Singbhum, they are scattered. The village pathways are mere tracks, and in many they constitute deep nullas serving the purposes of drains, being about 5 or 6 feet below the sites on which the dwellings stand. In these, knee deep water and mud remain continuously for four months of the year. No conservancy arrangements exist either in Manbhum or Singbhum. *Water-supply* is taken generally from tanks and bandhs for all purposes in Manbhum, excepting in the villages along the Grand Trunk Road, where well water is used for all purposes. Only one tank is kept isolated and guarded for drinking purpose solely: this is the Jomadhar bandh in Kassipur belonging to the Pachet Raja of that place. River (the Damuda) water is solely used by the people in Ghurhur, which is situated on the bank of that river. *Disposal of the dead*.—The dead are burnt on the sides of a near river or jore, but in many places in thanas Manbazar, Purulia, &c., they are thrown into the jungles. The Mohamedans bury their dead outside but near the villages. The Kols of Singbhum burn their dead partially, and then bury the bones in an open space within or near their villages. The account given regarding food and drink corresponds with that furnished by the Deputy Sanitary Commissioner. *General health* was good, but in some thanas in Manbhum measles prevailed epidemically. The Assistant Surgeon adds that the description given above applies to the villages of all the thanas; but that he saw in a large number of villages large heaps of offensive cattle dung and house refuse, and he called on the people to have them removed

<i>Manbhum.</i>	<i>Singbhum.</i>
In thana Purulia—	In Chyebassa thana—
Balgura.	Kalhar.
Ludharka.	Barkela.
Kurcha.	Lala.
Busaurma.	Purulia.
In thana Manbazar—	
Ma'a.	
Disabazar.	
Adardih.	

to the fields before the rains set in. This was particularly observed in Hol-dipukur and Doogdha in Seraikela and in Ghurhur in thana Govindpur. He reports that the villages named in the margin are insufficiently supplied with water, and that the pressure is felt most in March and April. In the Kolhan, in Singbhum, some villages have gurrachs in

low marshy fields, others have daris, the water of which is not fit for drinking. *Registration* was looked after in the usual manner. *Suggestion*.—The Assistant Surgeon submits the following suggestions:—(1) Some measures should be taken for the better supply of water in the Kolhan villages, and the best measure would be to direct the Mankis and Mundas to construct a good well in each village. (2) In the town of Chas in Manbhum, the following improvements

are called for : (a) Of the two lac factories one, belonging to Raj Kristo, requires a pucca drain from the large gurrah to the low cultivated fields, as the gurrah contains lac washings which find their way into a tank; and the other, belonging to Hit Lal Jamti, requires a pucca working ground and drains within its compound; and (b) The drain in the house of Nandolal Dutt should be done away with, as the house-washings flow through it to a public road. (3) In Nirsha (thana Nirsha) a pucca drain is required from the highest point of the camping ground, running along the northern side of the Grand Trunk Road in front of the police-station and Public Works Department bungalow, and falling into the low cultivated fields. If this is constructed, it would (a) prevent the old Government well from being polluted, (b) prevent damage to the Grand Trunk Road caused every year by the overflow of water from the northern side, and (c) prevent similar damage to the houses and shops in the southern side of the road caused by the same overflow of water.

234. **SONTHAL PERGUNNAHS CIRCLE.**—Assistant Surgeon Kali

Prosunno Ghosal, Deputy Sanitary Commissioner.—This Officer's sanitary inspections embrace four towns and 783 villages in the thanas in the districts named in the margin. His report, a *resumé* of which follows, shows that he paid attention to his duties in this direction.

235. **Monghyr District.**—SURAJGURRAH thana.—*Dwellings and Domestic cleansing.*—The villages generally are situated nearly on the same level with the surrounding country. A large tract of swampy land adjoins villages Jagadispur, Jagirpura and Surajgurra. The houses are constructed of mud walls with thatched roofs, and are crowded together and ill-ventilated.

Monghyr district.		Sonthal Pergunnahs district.	
Thanas.	No. of villages.	Thanas.	No. of villages.
Surajgurra	... 7	Pakur	... 71
Tegra	... 65	Dumka	... 49
Monghyr	... 38	Mohagama	... 30
Gogri	... 59	Mudhupur	... 5
Begu Serai	... 25	Jamtara	... 64
Bullia	... 106		
Lukhisera	... 20	Total	... 219
Shekpara	... 36		
Kharakpur	... 65	Bhagulpore district.	
Buriarpur	... 8	Kissenganj	... 25
Khagria	... 7	Banka	... 6
Burharwa	... 20	Colgong	... 32
Total	... 456	Kotwali	... 11
		Sultanganj	... 12
		Madhepura	... 22
		Total	... 108

The inhabitants, consisting chiefly of Hindus with a sprinkling of Mahomedans, are quite indifferent to personal cleanliness. There is no conservancy in any village, and decomposing cowdung is accumulated near the houses and removed only when required for manuring purposes. Some of the houses in Jagadispur, Jagirpura and Surajgurra are provided with latrines, some of which are well-privies and some surface privies; but they are not cleaned properly. Nuisances, including defecation, are committed in pits and hollows of which there are many, on the pathways, waste lands and cultivated fields, and near houses. *Roads and Drainage.*—The roads are kutcha, narrow, tortuous, and in a miserable condition, and they are mostly unprovided with side-drains, and where these exist, they are blocked up with refuse, &c. The drainage is not free anywhere, so that the pathways become impassable during the rains. *Disposal of the dead.*—The dead are taken to the Ganges for cremation, and in some places waste land is preferred for the purpose. Dead cattle are thrown on waste lands or near villages. The *general health* was not bad. **TEGRA, MONGHYR, GOGRI, BEGUSERAI, BULLIA, LUKHISERA, SHAIKPUR, KHARAGPUR, BURIARPUR, BURHARWA and KHAGRIA thanas.**—The villages in these thanas present the same insanitary conditions and other features as obtain in thana Surajgurra. It was, however, noticed that in some villages, specially in Tegra, the Mahomedans bury their dead near their houses, and the pauper dead are cast into the Ganges or into rivulets. *Water-supply.*—The chief sources of water-supply in the district of Monghyr are large wells protected generally by parapets. In some places the Ganges and rivulets are resorted to. The water of many of the wells is brackish, but still the people consider it good.

236. **Bhagulpore District.**—KISSENGANJ, MADHEPURA, SULTANGANJ, KOTWALI, COLGONG and BANKA.—The sanitary and other features obtaining in these thanas are identical in every respect with those of the Monghyr thanas, excepting in the following respects:—(1) In thanas Kissenganj and Madhepura the villages are excessively damp; the climate unhealthy, owing to the greater portion of the villages being annually submerged by the floods of the Kosi river; the women, especially of the poorer classes, are very filthy in their habits, never

changing their clothes until extremely dirty, and scarcely ever washing themselves; the cattle are lodged in the dwelling-houses; the wells are unprotected, and contain unwholesome water; and fever with spleen prevails in many villages in Kissenganj during the greater portion of the year. (2) The other thanas mentioned above are not so damp and unhealthy as Kissenganj and Madhopura.

237. Sonthal Pergunnahs DISTRICT.—BARHARIDA thana.—*Dwellings and Domestic cleansing.*—Of all the thanas in the Sonthal Pergunnahs, the villages in this thana were found in the worst sanitary condition—worse than that of the villages in the districts of Monghyr and Bhagulpore. These villages are situated on low ground, surrounded with swampy rice-fields. The soil consists of a mixture of clay and sand, and retains a greater amount of moisture than that of any other thana. The houses are crowded together, and the floors are very damp, especially during the rains. The inhabitants, consisting of Hindus and Mahomedans, chiefly of the lower classes, are unmindful of personal cleanliness. Surface cleansing is not attended to, the only scavengers being pigs. Conservancy *nil*. Heaps of decomposed refuse and cowdung are accumulated in the village pathways and in the neighbourhood of the houses. Defecation is carried on on the road-sides, borders of tanks, and in any unoccupied place in the village. *Drainage.*—Surface drainage has been completely obstructed, and during the rains the emanations from surface impurities are intensified. *Water-supply.*—The chief source is tanks, but the excreta on their banks are washed down into them during the rains, and the water from this and other causes is highly polluted. There are also small wells in some of the houses, but they are not properly protected. *Disposal of the dead.*—The arrangements under this head are the same as in other thanas. **PAKUR, DUMKA, MOHAGAMA, MODHEPUR and JAMTARA thanas.**—*Dwellings and Domestic cleansing.*—The villages in these thanas are generally cleaner and drier than those of any other thana mentioned above. Those in Modhepur and Jamtara are situated on ground higher than the surrounding country, while those in the other thanas are generally situated on the same level as the surrounding fields. The soil consists of brown, dry, stony sand having greater power of radiating heat, and thus differing from that of all the other thanas. The houses are generally erected in lines along pathways, but they are devoid of internal ventilation, and crowded with inmates. Cattle are kept within them in some places, but they and their courtyards are usually swept carefully and helped; and in this particular they differ from the arrangements obtaining in the thanas above named. Conservancy *nil*, but the road-sides are not so often resorted to for defecation, &c., and consequently the villages wear a cleaner appearance than generally the case. *Water-supply* is taken from small wells and rivulets, the water of which is reputed to be good. *Disposal of the dead.*—Cremation is carried on on the banks of the Ganges, near a rivulet or at the foot of a hill; and some piece of waste land near the village is used for burials. *Registration*—This was attended to in the usual manner. *General health.*—An epidemic of small pox, of short duration, prevailed in the district of Monghyr during the months of April, May and June, and cholera visited the towns and other villages in the Bhagulpore and Monghyr districts during the months of July, August, September and October. *Advice tendered.*—The Deputy Sanitary Commissioner explained to the people the beneficial effects of sanitation on their health, and tried to induce them to sweep and keep their houses carefully; to sweep the portion of the pathway in front of each house; to remove the sweepings and refuse at once to some place near the khets, instead of accumulating them about their houses; not to resort for defecation to the pathways, excavations and unoccupied places near the houses or the borders of tanks; to wash their clothes and persons; not to throw dead animals near the villages; and to provide windows for their houses to secure proper and constant ventilation. He reports that in many villages the intelligent portion of the community was impressed with the value of his advice, but complained that the ignorant people, particularly the women, committed nuisances on the pathways and other improper places, especially during the night. He directed the chowkidars to keep a watch over this practice, but he thinks that it cannot be stopped easily. The villagers generally agreed at the time to carry out the instructions given, and the panchayats and

chowkidars were directed to induce them to do so; but the Deputy Sanitary Commissioner says that he has scarcely any hope that his suggestions will be faithfully carried out, as the people are ignorant, and do not really understand the value of the rules of sanitation. In some villages he received the disheartening reply, that as the existing insanitary conditions have descended from their forefathers and never did any harm in former times, why should they now be productive of evil. *Suggestions.*—Under this head the Deputy Sanitary Commissioner observes that as it can scarcely be hoped that any real improvement in the sanitary condition of the villages can be secured until the people themselves really understand the benefits of sanitation, and that the best measure that should be adopted for permanent improvement in this direction is to impress them with the principles of sanitation by teaching. He urges that the establishment of patshalas in every village should be encouraged, and that among other books for study, a sanitary primer should specially form one; and he adds that at present much can be gained by making it one of the duties of the chowkidars to see to the cleanliness of their respective villages, to induce the people to clean their houses and pathways and remove the refuse at once to some place near the khets, to report any one who resorts for defecation to any improper place, and to see that excavations are filled up and dead cattle are not thrown near the village.

238. **EASTERN BENGAL CIRCLE.**—*Assistant Surgeon Narendro Nath Gupta, Deputy Sanitary Commissioner.*—

<i>Backergunge district.</i>		<i>Dacca district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Sarupkati	... 53	Keranigunge	... 3
Gournadi	... 38		
Mendigunge	... 20		
Nalchiti	... 21		
Jhalokati	... 23		
Barisal	... 22		
Backergunge	... 30		
Total	... 207		

This Officer visited, for sanitary inspections, three towns and 210 villages in the thanas in the districts named in the margin. The report submitted by him, an abstract from which is subjoined, indicates that he bestowed much attention to this portion of his duty.

239. **Backergunge District.**—

SARUPKATI, GOURNADI, MENDIGUNGE, NAL-

CHITI, JHALOKATI, BARISAL and BACKERGUNGE thanas.—Low lands are to be met with in thanas Sarupkati and Jhalokati, but the villages in the rest of the abovementioned thanas are situated, comparatively speaking, in more or less elevated positions. All the villages, without exception, are subject to flooding, the effects of which are considered to be beneficial. Many rivers and khals intersect all these thanas, and rivers are most numerous in Mendigunge, Barisal, Backergunge, and portions of Gournadi, and khals in Sarupkati, Jhalokati and Backergunge, the Nalchiti thana being somewhat deficient in these water-courses. Filthy ditches, marshes and other excavations exist, to a more or less extent, in all the thanas, notably in Gournadi, Mendigunge, Nalchiti and Backergunge. Jungle also abounds in them, specially in Mendigunge and Backergunge, where the hogla jungle affords shelter to tigers, wild buffaloes and boars. Betel, cocoanut and other fruit trees are very common, and not only interfere with the free perflation of air, but also obstruct the sun's rays so much so that a good many houses are bereft of the advantage even at midday. The soil is alluvial, and the ground is damp throughout, but the people sleep on the damp floor on a hogla mat. *Dwellings and Domestic cleansing.*—Excepting a few pucca houses which are to be seen in all the thanas, the rest of the dwellings consist of the usual mat and thatch structures. They are situated in groups in the midst of gardens of betel, cocoanut and other fruit trees; and are so arranged that they enclose a large or small quadrangular courtyard. They are encumbered with goods and chattels and with various articles for domestic use, so that practically there is very little sleeping room left. Their floors and portions of the courtyards are swept daily and leaped occasionally; but the sweepings and other refuse are accumulated anywhere, according to convenience: generally in spots at little distance from the courtyards, in the backs of houses, in pits close by, under the adjacent trees, on the banks of small narrow khals, or in adjacent ditches and other excavations. The accumulations on the banks of the khals or in ditches or other excavations are to a certain extent carried away by the diurnal tides, specially in Sarupkati, Jhalokati, and portions of Backergunge; but in

other places they constitute a great nuisance from decomposition, aided by the cookroom and other waste water being thrown on them, and also by slight showers in the beginning of the rainy season. They thus continue till the high floods remove them. In many villages a small excavation, called *astakoor*, is dug in a corner of the courtyard, or immediately below the house verandah, to form a receptacle for urine and waste water, which stink disgustingly. The cowsheds, which are generally wretched structures, are built in the rear of the sleeping rooms; their floors are damp and dirty, and the dung is heaped close to them. The habits of the people are filthy. They resort for defecation to the banks of rivers, khals, tanks, jungles, fields, and in the vicinity of their houses, and it is common to see them obeying calls of nature from boughs of trees overhanging the khals and tanks. General domestic cleansing, however, is better observed, on the whole, in Sarupkati and Jhalokati than in thanas Gournadi, Mendigunge, Nalchitti, Barisal and Backergunge, being specially bad in Nalchitti, Gournadi and Mendigunge.

Roads.—These are sadly wanted in the villages. There are some main roads, such as Barisal-Backergunge, Barisal-Gournadi, Barisal-Nalchitti, Nalchitti-Jhalokati, Nalchitti-Monpara, Gournadi-Kaloopara, &c., but even these roads have been breached in many places, and some of them are unbridged. It is not feasible to construct proper roads without heavy cost, as innumerable rivers and khals have to be bridged. The rivers and khals are utilized in consequence as means of locomotion, and boats are kept by the people for moving about from place to place, and frail and unsafe chars or bridges constructed with bamboos, betel or cocoanut tree trunks, have been placed over khals for passing from house to house or village to village. Along the banks of some rivers and khals are to be seen narrow embanked foot-paths which are used by the boatmen for towing along boats, the breaches in these foot-paths being, as a rule, bridged over.

Drainage.—Small narrow drain-like khals abound in Sarupkati and Jhalokati, and they serve to a certain extent the purposes of drains, and drain-like cuts, often made for denoting the boundaries of lands, serve the same purpose in Gournadi, Mendigunge, Barisal, Nalchitti and Backergunge; but they are often irregularly deep or shallow, and obstructed, and some of them contain filthy water with decomposing vegetation.

Water-supply.—In thanas Backergunge and Mendigunge this is obtained from rivers, khals, tanks and putrid pools. Rivers and khals are utilised by those who live along or at a convenient distance from them, but being infested with crocodiles they are not largely resorted to. Moreover, their water becomes brackish in the hot months, as they are subject to diurnal tides, and their banks are to some extent resorted to for defecation, and the water is charged with faecal and other suspended impurities. With regard to tanks, very many of them are extremely filthy. The few which may be considered good are private property, and the general public cannot, therefore, avail themselves of them, or where they are open to them, their distance precludes resort to them. So there is no alternative for the people but to use the filthy tanks within their reach. The good tanks are, moreover, indiscriminately used. The same sources, and in addition bhils, supply the drinking water in the rest of the thanas, with the following difference, viz., that in them there are no good tanks, and the river and khal water is not brackish; and that in Sarupkati, water is also taken from filthy ditches and excavations, and most of the khals, tanks which are small, excavations, &c., become dry during ebb tide, so that, in order to meet this drawback, kutchas wells are sunk in the beds of the tanks, &c. Bhils and putrid pools are resorted to in all these thanas by those who have no other water within easy reach.

Disposal of the dead.—The prevalent custom in all the thanas is that every Hindu must burn his dead on his own land, so the result is that cremation takes place on the banks of tanks or on spots close to houses. The Mahomedans bury their dead on the banks of tanks or in the compounds of houses. The Joogies also inter their dead in their house compounds. Dead cattle are very often cast into the rivers and khals, and the nuisance is intensified where small khals are used, for during ebb tide the carcasses lie on the sides or bottoms of the khals, being impeded by branches of trees, and, if not devoured by birds of prey, are carried by the next flood tide into the tanks and ditches from which drinking water is taken. With regard to *food*, it is remarked that although there are so many rivers and khals containing fish, yet their

price is very high. *Registration* was tested in the manner laid down by the rules, and I noticed that the scrutiny was carefully made. *General health* was on the whole good. *Recommendations*.—Under this head the Deputy Sanitary Commissioner submits the following: That some legislative measure be early enforced in order to check the abominable insanitary conditions which now exist in the villages, as without it they cannot be rectified, and that the zemindars be compelled to give up lands to the villagers for use as burning and burial-grounds on the same terms as they are given to them for agricultural purposes.

240. *MUNICIPAL INSPECTIONS*.—**Backergunge** DISTRICT.—

PEROZEPUR town.—This Municipality embraces several outlying villages by which its area is much increased, the town proper being small. The river Bolessur and the Damuda khal lie in its immediate vicinity on the west and north, and they are embanked to prevent the town being flooded. *Dwellings and Domestic cleansing*.—With the exception of the Government buildings, which are brick-built, the dwellings consist of the usual kutcha structures found in villages, but some of them are provided with corrugated iron roofs. They are situated on tolerably raised ground and in groups, but the houses in each group are crowded together and surrounded by fruit trees which preclude perfusion of air. The house-sweepings and refuse are generally deposited in the rear of the houses, and the liquid refuse from the cook-rooms finds its way to the roads. The conservancy establishment consists of one supervising jemadar, and four mehters and five mehtrances for carrying out the provisions of Part IX of the Municipal Act, which is in force in some parts of this town, and three sweepers for road cleansing. There are no conservancy or other carts. There is only one public latrine situated at some distance from the river, constructed of planks, and containing three compartments. It is mostly resorted to by the boatmen and bazar people, and is exposed to public view. The private privies consist of machans with earthen receptacles beneath them. The night-soil is thrown into the river. Those who have no privies resort to the banks of the rivers and khals for defecation. The insanitary conditions usually prevalent in mofussil villages obtain in the village portion of this Municipality. There is, however, one municipal tank in village Sikarpore, but bathing, &c., is permitted in it. *Roads*.—The town is provided with pucca roads and foot-paths with the usual defective side-drains. They are kept tolerably clean in some places, particularly in the town proper. The side-drains are not used as latrines. Low jungle and bushes abound in some parts, and excavations exist which contain putrid water and rotting vegetation. *Drainage*.—This is defective. There are a few drains which are kept fairly clean. *Water-supply*.—This is taken from the river, khal, tanks and putrid pools. The river and khal water, although polluted, is considered to be good. There are two tanks which have been reserved for drinking purposes, but the falling leaves from trees in their vicinity pollute the water. Of the private tanks, only one is in good condition, but it is used promiscuously. The water from the putrid pools is used for domestic and other purposes. *Disposal of the dead*.—The Hindus burn their dead on the banks of the Damuda khal, far off from the dwellings, and the Mahomedans inter in the compounds of their houses. *Suggestions tendered*.—The Municipal Commissioners were advised to provide a trenching ground for night-soil; to prevent the use of the water from putrid pools; and to provide conservancy and other carts. **NALCHITTI town**.—This town is situated on the right bank of the Nalchitti river, and two small khals pass through it; but it is above flood level. Its area is less than a square mile, and it is densely populated in some parts. *Dwellings and Domestic cleansing*.—There are a few pucca one and two-storied houses, but the rest consist of the usual mat structures, excepting that some have corrugated iron roofs. Some of the houses are built in lines and crowded together, with fruit trees around them obstructing perfusion of air, while others stand in groups with free ventilation. Many of them are built on fairly raised plinths, and those of the poor are crowded with inmates. Cleanliness is observed only in so far as sweeping and keeping the houses are concerned. There are no means for removing of house refuse and sewage; ditches and other excavations abound, some containing putrid water; and much jungle and brushwood are to be met with. The cowsheds are generally wretched,

filthy structures. The roads are not properly swept, as there are only two sweepers, and no conservancy carts. There are no public latrines. There are two or three pucca private privies the night-soil from which is never removed; and defecation is generally carried on on bamboo machans erected for the purpose, near the roots of trees, from the boughs of trees overhanging drains, on the banks of tanks, khals, the river, or in any other convenient place. *Roads and Drainage.*—There are many pucca roads and foot-paths, they are overhung with branches of trees. The drainage is defective. Some roads have no side-drains, while some have shallow surface ones; most of the drains are obstructed and defective in level, and, on the whole, they are insufficient for the requirements of the town. *Water-supply* is taken from tanks and putrid pools. All the tanks are polluted by bathing and washing of utensils in them, and defecation on their banks, and some are covered with jungle and receive the diurnal tide water, excepting the one near the police-station and two others which are less polluted. The water of the putrid pools is used for culinary and other domestic purposes. *Disposal of the dead.*—The Hindus burn their dead on the banks of khals at a little distance from dwelling-houses, and the Mahomedans inter in the jungle, but far from such houses. *General health.*—There was a good deal of fever in this town during the months of October and November. *JHALOKATI town.*—The Jhalokati khal runs through this Municipality, dividing it into two parts. The town proper, which comprises the largest portion, is on the left bank of this khal, and extends up to Gorudhar khal on the east. The Nalchitti river runs on the south, but the town is above flood level. Some portions of it are densely populated, and there is a large number of boatmen on the river. *Dwellings and Domestic cleansing.*—Excepting a few one and two-storied houses, which, however, are ill-ventilated and used as shops or godowns, the rest of the dwellings are of the same description as in mofussil villages; but some have tin or plank walls, and some corrugated iron roofs; and some of those in the town proper are crowded together, precluding perfusion of air without, and ventilation within. Excepting the well-to-do, the habits of the people are filthy. The only point to which attention is paid is daily sweeping and casually leeping the house floors. The house-sweepings and other refuse are thrown anywhere: generally in the rear of the houses, in the drains close to them, or in the road-side drains, and they are usually in a decomposing condition, emitting a horrible stench from cookroom and other waste water finding their way to them. This state of matters lasts till the setting in of the rains, when the filthy collections are partially washed away. Surface cleansing cannot be properly attended to, as the establishment (two sweepers and no carts) is altogether inadequate for the many roads possessed by the Municipality. Defecation is carried on in the same manner as in Nalchitti and Perozapore. The market was in a very filthy condition, and the sweetmeats sold in it were very bad. *Roads and Drainage.*—There are several broad pucca roads and foot-paths, but their surfaces are uneven, and they are out of repair for want of funds. This causes much inconvenience, as there is much cart traffic on them. Branches of trees overhang them, and there are some hollows, excavations, &c., containing putrid water. The drainage is very defective. There are several drains, but they have not been systematically constructed, some being irregularly deep or shallow, and many wanting in proper outfall, obstructed by jungle, &c., and encroached upon by planks, &c., from the shops in front of them, with the result that the cookroom and other waste water thrown into them collects and stagnates beneath the planks. They are also used as latrines. *Water-supply.*—This is taken from rivers, khals, tanks, and putrid pools. The river and khal water is much polluted, being muddy and charged with suspended impurities, the numerous boatmen freely defecating in it. The tanks are promiscuously used; none are reserved for drinking purposes solely, and human feces and plantain and other trees are to be seen on their banks. The water of putrid pools is used for culinary and other domestic purposes, but it is suspected that it is also drank by those who are too lazy to go for their water to a better source. *Disposal of the dead.*—The Hindus cremate on the banks of the Nalchitti river at the south-eastern extremity of the town, and there is a public burial-ground for Mahomedans in the north outside of municipal limits. The Byragies bury their dead within house

compounds. *General health.*—Fever prevailed, but not very fatally, in October and November.

241. *Assistant Surgcon Doorga Dass Roy, Deputy Superintendent.*—This

<i>Noakalli district.</i>		<i>Mymensing district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Sudharam	... 3	Bazitpur	... 16
Begumgunj	... 1	Agursindu	... 10
Lakhipore	... 1	Kishoregunge	... 15
Raunigunge	... 2	Kendua	... 4
Fenni	... 4	Durgapur	... 11
Chhagalnaiya	... 1	Netrokona	... 5
Bamni	... 2	Iswargunj	... 4
Hatia	... 1	Fulpore	... 4
Sundip	... 2	Mymensing	... 4
		Jamalpur	... 5
Total ...	17	Sherpur	... 6
		Dewanganj	... 5
		Gafarganj	... 6
		Total	95
<i>Tipperah district.</i>		<i>Faridpore district.</i>	
Daudkandi	... 3	Shilchar	... 5
Muradnaggar	... 2	Polong	... 8
Comillah	... 4	Madaripore	... 17
Nobinagar	... 2	Muksudpore	... 11
Brahmanberia	... 17	Blanga	... 8
Kasba	... 10	Total	49
Chaddagram	... 3		
Laksham	... 5		
Chandina	... 5		
Total ...	51		
<i>Dacca district.</i>			
Keranigunge	... 10		
Narayanganje	... 5		
Srinagar	... 11		
Nababgunge	... 6		
Harirampur	... 18		
Manickgunge	... 9		
Jafarganj	... 8		
Sabhar	... 15		
Munshiganj	... 7		
Rupganj	... 26		
Kapasla	... 3		
Raipur	... 12		
Total ...	130		

Officer's sanitary inspections extended over eight Municipalities and 342 villages in the thanas in the districts marginally cited. His report on the subject is very general, but concise. It would not, however, have lost in value had it dealt with the sanitary status of each thana separately.

242. **Noakhali, Tipperah, Dacca, Mymensing and Faridpore.**—The villages of Eastern Bengal are of two classes, viz., those situated on high and those on low ground. The former are, as a rule, to be found in those portions of thanas Chhagalnaiya, Chaddagram, Comillah, Kasba and Brahmanberia in Tipperah, and of thanas Durgapur, Fulpur, Sherpur and Dewanganj in Mymensing, which are in the vicinity of hills. The principal feature of these villages is their comparative dryness, due to their being not much water-logged. The latter, or the low-land villages, are of two kinds, viz., those situate on lands lying along the sea or rivers in their lower course, and those which belong to lands high and are yet low by reason of their occupying the abandoned beds of some extinct rivers. The villages of the first order are in the southern parts of the Noakhali district, and on the Meghna, the Brahma-

putra or Jamuna, the Dhaleshwari, the Padma and other rivers. Those of the second kind are to be found in certain parts of thana Muksudpur in Faridpur, in thanas Kasba, Brahmanberia, Nobinagar, and Muradnaggar in Tipperah, in thanas Bazitpur, Kishoregunge, Kendua, and Sherpur in Mymensing, and in thanas Keranigunge, Sabhar, Rupganj, Kapasia, and Raipur in Dacca. The villages lying near the Bhowal and the Madhupur jungles in Dacca and Mymensing, respectively, belong also to this category. The Deputy Superintendent submits the above details, because he believes "that these several conditions variously affect the health of the people. Admitting fully that conditions favorable for the production of malaria abound in almost all the villages of Eastern Bengal, it may yet be maintained that, other circumstances being equal, it will be found (1) that the higher the elevation is, the more healthy the villages are, and (2) that the more the villages are water-logged, the more unhealthy they are. The proverbial unhealthiness of some of the Bhowal and the Mudhupur villages supports the latter view; and a good illustration of the former was furnished by a circumstance noticed by me in the course of my tour in December last. As I was proceeding through thanas Srinagar and Nababgunge to Harirampur, I first heard of cholera in Raizda, an old village in Srinagar. The disease here was no doubt of a very mild form; but as the report came to me it was more severe in Sholaghar, another village in Srinagar. However, to speak from my own experience, the disease was pretty severe in Agla, Barra, Kashimpur, &c., in thana Nawabgunge. As I proceeded up the stream (Isamuti nudi) the severity of the disease became gradually lessened until in some villages of thana Harirampur it had not appeared at all. Other factors there may have been at work; but the geographical position of the villages was the one which attracted my notice." *Habits of the people.*—Under this head the Deputy Superintendent makes the following observations; I give his own words:—"The case is really bad with the class

known as the 'upper.' Having sufficient means at command, they have neither to work with the hand nor labor with the brain, and life must indeed be a burden to them. Things have, however, reached that point from which reaction is inevitable. Indeed the signs of re-awakening are visible at almost every turn, and the day perhaps is not far distant when the zemindar will give up his hubbly-bubbly and the pillow in favour of some active pursuits of life. *Roads and Drainage.*—Excepting in very large and populous villages, the necessity for roads is not felt to be so great as it is in towns. And it would have been still less if it were not for the interference by trees and bamboo clumps with free perflation. Where roads exist they are generally devoid of side-drains and openings for passage of water, hence surface drainage is seriously obstructed. *Water-supply.*—The question of a pure water-supply for villages is daily assuming a more and more serious aspect. Excepting the instances in which the villages are on the river sides, or in which there are good tanks and wells, the great bulk of them suffer from want of water. The changes which are constantly at work have altered the physical aspect of many of these villages, for those which at one time were watered by large and deep streams are not now benefited by them. Silting is likewise busy in filling up large and good tanks in those villages which are subject to annual inundations. Many villages, again, are too poor to be able to provide themselves either with tanks or wells. In these the people are driven to use water which, to say the least, is not fit for even the lower animals. *Conservancy.*—The question of village conservancy in Eastern Bengal resolves itself into simply removing house-sweepings and refuse, and securing surface drainage. These are not very difficult tasks when we consider what has been done in towns. But simple as these measures are, there are practical difficulties to be overcome in giving effect to them in villages. They involve expenditure, and this is not favourably viewed by the villager; they are innovations, and he cannot interfere with matters handed down to him by his forefathers; he has not the moral courage to do what his neighbour will not do; and he is apathetic and indifferent, although there is no doubt that he is not so obtuse as not to understand that insanitary surroundings are injurious to health. The Deputy Superintendent, under these circumstances, suggests that Government should help the people in different ways, and among them by passing a mild law which would make it incumbent on all to keep their houses clean. *Disposal of the dead.*—A law like that suggested above would also, the Deputy Superintendent thinks, do away with the evils associated with both cremation and burial, especially the latter. He has repeatedly pointed out to the Mahomedans the wrong they do to themselves and their neighbours by burying their dead in close proximity to dwelling-places, but the result "has always been a deep sigh of despair and despondency." They seem to know that they have done wrong; but they also know that they lack the power to do away with custom.

243. **BEHAR CIRCLE.**—Assistant Surgeon *Mothura Nath Sen*, Deputy Sanitary Commissioner.—The sanitary inspections of this Officer

<i>Shahabad district.</i>			<i>Patna district.</i>		
Thanas.		No. of villages.	Thanas.		No. of villages.
Arrah	...	24	Manvir	...	15
Belouti	...	4	Bikram	...	12
Dumraon	...	7	Masauri	...	6
Buxar	...	14	Futwa	...	15
Peero	...	12	Hilsa	...	17
Dhangaon	...	3	Chandi	...	5
Dehri	...	2	Ataserai	...	11
Kharver	...	16	Hohar	...	6
Sasserai	...	15	Silao	...	6
Mohana	...	57	Barrh	...	9
Bhabuak	...	62	Mokameh	...	10
Total	...	216	Total	...	112

embraced eight towns and 328 villages in the thanas in the districts named in the margin. His report is a fair one, and furnishes some interesting information; and although the particulars relating to both the above districts are given together, the distinguishing features appertaining to each thana in them have been brought out. A *resumé* thereof is subjoined.

244. **Shahabad AND Patna DISTRICTS.**—The **Shahabad** district is separated from Patna by the river Sone, has the Ganges on its north, the river Karmanasha on the west, and the Kymore range of hills to the south. It is intersected by several smaller channels, and there is a network of irrigation canals in the low-lying tracts, such as thanas *Dhangaon*, *Kargher*, *Peero* and

Dehri, the northern portion of thana *Sasseram*, the southern portion of thanas *Buxar*, *Dumraon*, *Belouti* and *Arrah*, the Keri and Dhansoi outposts of *Buxar* thana, the Noanagar outpost of *Dumraon* thana, and the Jugdispore outpost of *Belouti* thana. In the eastern portion of the *Mohaniah* thana there are a few distributaries of the same canals. The northern portion of the district, i.e., the northern portion of thanas *Buxar*, *Dumraon*, *Belouti* and *Arrah*, are comparatively elevated. **Patna.**—The Rajgir range of hills lies on the north-east corner of this district, (i.e., on the south of thanas *Behar*, *Silao*, and *Ataserai*), and the river Ganges on the north. It is intersected by several smaller channels, and there are irrigation canals in thanas *Bikram*, *Manair* and *Bankipore*. *Dwellings.*—The dwellings both in **Shahabad** and **Patna** are constructed of mud walls with tiled or thatched roofs, with defective ventilation everywhere, and overcrowding of inmates at night generally, particularly in the houses of the poorer classes. The floors of the houses are dry, excepting during rains, and they are swept daily together with the angun or compound in front of them: but their surroundings are filthy. The fluid refuse passes through the house drains to the foot-paths between the rows of houses, where it partly soaks into the soil and partly evaporates. The cattle sheds in almost all the villages are built close to the dwelling-houses, but they are cleaned daily, and ash is sprinkled on their floors at intervals to keep them dry. The ordure of the cattle is dried in cakes, called *goita*, and used as fuel, firewood not being available in these districts. There is, however, a difference in this respect in the BHARUAH and MOHANIAH thanas in Shahabad where the Kumars, or potters, generally collect the dung in heaps, part of which is washed away by rain, and the remainder used as fuel when dry. *Conservancy.*—The habits of the people generally in both the **Shahabad** and **Patna** districts are very filthy. Conservancy arrangements do not exist in any village, and defecation here and there, and everywhere, is general. The *pardanashin* females in thanas FUTWA, HILSA, CHANDI, ATASERAI, SILAO, BEHAR, BARRH, and MOKAMEH in the Patna district generally ease themselves on any plot of ground within the house compound. Sundasses or well-privies are to be met with here and there. In some places the house sweepings and refuse are accumulated, and used as manure when required. There are piggeries in almost all the thanas, and the pigs cause much nuisance. It is a general rule in **Shahabad** and **Patna** for the dead cattle to be taken by the *chamars*, who, after removing the skin and flesh, throw the bones, &c., close to their houses, which are sometimes sold when dry. *Roads.*—Excepting the district roads, there are no properly constructed roads in any of the villages communication being carried on by narrow footpaths. There are many roads in the **Patna** district constructed by the Road Cess Department, but most of them are kutcha, a few only having been partially metalled. The different police-stations and the large and much-frequented bazars are connected with one another by them, and in the MANAIR thana in the Dinapore sub-division many fair-weather roads connect one village with another. The trees which were planted on the roadsides have died away in some parts, and the Futwa to Hilsa and the Bakhtiarpore to Behar roads require additional waterway, though in ordinary seasons there is no obstruction to the flow of water. In the **Shahabad** district the roads are comparatively few, but the main roads are well metalled; the Grand Trunk Road runs from east to west through the DEHRI, SASSERAM, and MOHANIAH thanas, and the trees planted on the road sides are in a thriving condition. *Drainage.*—**Patna.**—In the northern portion of thanas FUTWA, BARRH and MOKAMEH, which are situated on comparatively high ground, the natural drainage is fair; but the southern portion being very low, is flooded during the rains, and the high alungs or bunds, which exist in almost every village in it for the protection of the paddy crops, impede natural drainage to a great extent. The alungs also interfere much with the drainage of the SILAO, BEHAR and ATASERAI thanas situated in the Terai of the Rajgir hills, and with that of the MASOURI, HILSA and CHUNDI thanas. The Futwa to Hilsa road and the Bakhtiarpore to Behar road impede very much the drainage of the western portion of thanas FUTWA, and BARRH; and the canal embankments are said to interfere with the drainage of the Paliganj outpost in the BIKRAM thana, and of its southern portion which is low and flooded by the overflow of the river Poonpoo with a *jallah* or *jhil* on

the east; and with that of the low-lying eastern portion of MANAIR thana situated on the east bank of the river *Sone*. The pits and excavations which are dug for the construction of mud houses almost in every village in the above-mentioned thanas generally receive the surface drainage, which remains until it is dried up by evaporation, and the village pathways generally throughout serve the purposes of drains. There is no obstruction or impediment in any of the hill streams or rivers which run through the abovementioned thanas, excepting in the river Mohaney in CHANDI thana, where a bund just below village Jogia obstructs its course. In the **Shahabad** district the embankments of the network of irrigation canals which exist in the following places appear to impede their natural drainage, viz., the northern portion of thanas SASSERAM and BHABUAH, the Kheri and the Dhansoi outposts in the BUXAR thana, the Noanagar outpost in the DUMRAON thana, the Jugdispur outpost in the BELOUTI thana, the western portion of PEROO thana, the eastern portion of MOHANIAH thana, and the whole of DHANGAON and KARGHER thanas together with their outposts, which represent the depressed basin between the hills on the south, the river Ganges on the north, the river Sone on the east, and the river Karmanasha on the west, and contain a number of small hill streams or rivers. No impediment or obstruction was noticed in any of the above-noted hill streams or rivers. The northern portion of thanas BUXAR, DUMRAON, BELOUTI and ARRAH, and the eastern portions of thanas DEHRI, PEERO and ARRAH, are situated on the banks of the rivers Ganges and Sone, and are comparatively high, and hence their drainage is good. The Sinaha outpost in the ARRAH thana and the northern portion of the Koilwar outpost are flooded by the overflow of the river Ganges; but on the fall of the river the water passes off without any obstruction. The pits and excavations which exist in the villages generally, receive the surface drainage, and, being undrained, allow the water to soak into the soil or to evaporate; but the excavations in the low-lying tracts are, when they dry up, replenished again by canal water.

Water-supply.—In thanas BEHAR, SILAO, ATASERAI, HILSA, CHANDI, MASABRI and MANAIR in the **Patna** district, and in thanas DHUNGAON, SASSERAM and KARGHER in the **Shahabad** district, only well water is used both for drinking and other domestic purposes; while in thanas MOKAMEH, BARRH, FUTWA and BIKRAM in the former district, and thanas DEHRI, PEROO, ARRAH, BELOUTI, DUMRAON and BUXAR in the latter, river water is utilised in addition to that of wells; and in thanas BHABUAH and MOHANIA in **Shahabad** tanks, in association with the rivers and wells, also form the source of water-supply. The water from the rivers cannot be said to be pure, as partially burnt dead bodies are cast into them, excepting in the river Durganti, and bathing and washing in them and defecation on their banks take place. The water of the tanks is also polluted by bathing and washing and defecating on their banks, and by the entry into them of surface drainage. The wells are for the most part situated on raised ground, and their margins provided with parapets; but the parapets are, with few exceptions, nowhere well cemented or plastered, and bathing and washing are performed near them; hence their water is not above suspicion. *Disposal of the dead.*—In thanas BARRH, MOKAMEH, FUTWA and MANAIR in the **Patna** district, and in thanas BELOUTI, DUMRAON, BUXAR, DEHRI and ARRAH and with its Koilwar outpost, in the **Shahabad** district, the Hindu dead are cremated on the banks of the Ganges and Sone, but the process is not completely gone through, as in most cases the faces are disfigured and the bodies are then thrown into the river. Here the cholera dead are also cremated. In the remaining thanas of **Patna** and **Shahabad** the dead are cremated on the fields or waste lands close to the village, or on the sides of the nearest rivulet, and the bodies appear to be thoroughly cremated. In **Shahabad** the villagers generally subscribe for firewood or *goita* for burning the bodies. In this district the pauper dead and the dead Hindu children are cremated, but in **Patna** they are generally buried. The Mahomedan dead are buried in both districts close to the villages, each family or each sect having a separate burial-place of its own. It was noticed that in village Denowa in thana BHABUAH the burials take place within the house compounds. *Clothing.*—The people in both **Shahabad** and **Patna** are inadequately clothed, and the clothes of the lower classes are very dirty for want of washing. *Registration.*—This subject was attended to; but it appears that much

difficulty is experienced in collecting the information, as the people are not inclined to furnish it, particularly in the presence of the chowkidar, as they suspect that this functionary would get them into trouble. The result is that much time is occupied in obtaining the data to the detriment, to a great extent, of other work. *General health.*—The general health in the **Patna** district was on the whole fair, but that in the **Shahabad** district was unusually bad. During the last four months of the year a widespread outbreak of malarial fever prevailed in, and was present throughout it, in some parts assuming epidemic proportions, owing, it is believed, to heavy rainfall. It made its appearance in August, and increased greatly during the months of September and October, and lasted through December. It attacked people living both on the elevated and low tracts, and hardly any of the villages escaped its visitation: nor did sex, age and condition of life modify its incidence. Thanas *Dhangaon* and *Khargher*, the northern portion of thanas *Sasseram* and *Bhabuah*, the eastern part of thana *Mohania*, the southern portion of thanas *Buxar*, *Dumraon*, *Belouti* and *Arrah*, and the western portion of thana *Peroo*, suffered the most. The fever was of the usual intermittent type, accompanied by the usual complications and sequelæ, and seldom lasted for a long time; but relapses were frequent. *Advice tendered.*—The need for, and the benefits of sanitary reform were explained to the people, and the chief defects were pointed out; but they heard all that was said with much indifference, and those who recognized the importance and utility of the suggestions, said that it was impossible to carry them out in rural villages. *Suggestions.*—The Deputy Sanitary Commissioner submits the following suggestions for the rectification of defects:—(1) To stop the objectionable practice of promiscuous defecation, limiting it to the fields outside and at a safe distance from the villages. (2) To prevent the accumulation of refuse, &c., within the village. (3) To set apart one or two wells solely for drinking purposes. (4) To cause the pits and excavations to be filled up. (5) To cause the dead to be cremated completely. (6) To plant trees on the roads.

245. **MUNICIPAL INSPECTIONS.—Shahabad District.**—**DUMRAON town.**—The chief defects found in this town are:—The *dwelling-houses* are devoid of ventilation; the *Roads*, excepting a few, are unmetalled and not provided with side-drains, and there is much encroachment on the Bazar road; the *Drainage* is defective; the *Water-supply* arrangement is not good; the arrangements connected with the *Disposal of the dead* are imperfect, there being no municipal burial-ground or burning *ghât*; the *Conservancy* arrangements are unsatisfactory, the private latrines consisting for the most part of sundasses or well-privies, and cess-pools or reservoirs for fluid refuse, which are not cleaned, existing in most of the houses. *Suggestions.*—(1) To raise funds for the construction of shallow pucca drains along the roadsides. (2) To induce the people to use the public latrines instead of obeying calls of nature on the outskirts of the town. (3) To make every endeavour to suppress the well-privies. (4) To take the necessary measures to abolish or keep the cess-pools clean. (5) To provide two plots of land at a safe distance from the town—one for the burial of the Mahomedan dead, and the other for the burning of the Hindu dead, and to see that cremation is thoroughly carried out. (6) To pay closer attention to the filling up of pits and excavations. (7) To provide all the public wells with iron buckets and chains. (8) To pay greater attention in keeping the lanes and bye-paths properly clean. **SASSERAM town.**—In this town the dwelling-houses are wanting in ventilation; the roads are metalled, but are narrow; the drainage is defective; the roadside drains do not serve their intended purpose; the water-supply arrangements are not satisfactory; the conservancy arrangements are much neglected; there are cess-pools attached to most of the houses, and sundasses or well-privies are general; there are public latrines, but they are not generally used by the people, who prefer to defecate everywhere; the night-soil is not properly trenched; there is no appointed burial-ground or burning *ghât*, nor is there a municipal slaughter-house. *Suggestions.*—(1) The roadside drains should be re-constructed after taking proper levels, so that the water may drain off easily. (2) The deep excavations in the centre of the town, which receive the drainage of some portion of it,

should be properly drained. (3) The people should be induced to use the public latrines, so that promiscuous defecation may cease. (4) The night-soil should be properly trenched in pits dug about one foot deep and one foot wide in lines, and the fæces put therein covered with earth six inches deep. (5) The sundasses or well-privies to be closed. (6) The cess-pools to be cleaned. (7) An iron bucket and chain to be attached to each public well for drawing water, to obviate promiscuous dipping of water pots. (8) To establish a municipal slaughter-house. (9) To provide a burning place at a safe distance from the town. (10) To fix a burial site for the Mahomedans at a convenient place. (11) To stop the practice of bathing and washing in tanks the water of which is used for drinking. (12) To carry on vaccination vigorously.

BHABUAH town.—In this town the sanitary condition of Khalaspore, of Sinu and of the old Bhabuah village is completely neglected; the drainage is defective, there being hardly any drains; there are no public latrines; the people generally defæcate anywhere; there is no municipal slaughter house, nor any appointed burial-ground or burning *ghât*; the water-supply is bad, and no tanks or wells have been set apart for drinking purposes. *Suggestions.*—(1) To provide all the wells used for drinking purposes with iron buckets and chains for drawing water. (2) To increase the conservancy establishment, so that all requirements may be properly attended to. (3) To provide land for trenching night-soil. (4) To fix a burning place for the Hindus at a safe distance from the town. (5) To provide a burial-ground for the Mahomedan dead. (6) To construct a few latrines in the different mohallas, to prevent promiscuous defecation. (7) To keep tank water well protected from pollution. (8) To construct shallow drains along the roadsides. (9) To keep the kutchra roadside drains perfectly clear. (10) To improve the sanitary condition of Khalaspore, Sinu and the old Bhabuah village, or Gavi as it is called. (11) The lanes and bye-lanes should be properly swept. (12) Not to allow the fluid refuse to pass along the house drains to the roadside. (13) To dispose of the fluid refuse properly.

(14) To utilize fully the provisions of the Compulsory Vaccination Act when it shall have come into force. **BUXAR town.**—In this town the drainage is defective; pits and excavations receive the surface drainage which stagnates, and the few drains that exist are deep and dangerous; the conservancy arrangements are much neglected; the lanes and bye-paths are not swept; the public latrines, only 4 in number, are not in a good condition; promiscuous defecation is general; the water-supply arrangements are not satisfactory; the dead are cremated both above and below the stream of the river Ganges; the burial of the dead of a class of people, called *Doriulassi*, is carried on within the enclosures of houses; there is no appointed slaughter-house; the offal, &c., of slaughtered cattle are thrown into a pit near *Chamartolla*; and no burning-ghât has been provided.

Suggestions.—(1) To construct pucca shallow drains along the roadsides. (2) To keep the bye-paths clean. (3) To fill up the pits and excavations with sweepings instead of selling them. (4) To keep the river bank perfectly clean. (5) Not to prevent cremation of the dead on the banks of the river. (6) To stop burying the dead within the enclosures of houses. (7) Not to allow the *domes* to take the clothing of the deceased, which should be burnt along with the bodies. (8) To see that the dead are thoroughly cremated. (9) To supply some of the wells from which water for drinking is drawn with buckets and chains. (10) To bury the night-soil in trenches one foot wide and one foot deep. (11) To cement the floors and walls of the public latrines, and to tar them at least twice a month.

JUGDISHPORE town.—The roads in this town, excepting one, are unmetalled, and not provided with side drains, nor are they swept; the drainage is defective; the drains on the sides of the metalled road are deep and full of fluid refuse; the water-supply is not above suspicion; the conservancy arrangements are quite unsatisfactory; there is not a single public latrine; defecation is permitted anywhere and everywhere; the arrangements connected with the disposal of the dead are very unsatisfactory, there being no appointed burial-ground and burning-*ghât*; and the tanning of hides is carried on within the town. *Suggestions.*—(1) To strengthen the conservancy establishment, so that all the conservancy requirements of the town may be properly attended to. (2) Not to allow the cultivating classes to accumulate refuse, &c., in front of their houses. (3) To

provide public latrines, so that the people may not defæcate on the roadsides as well as in nooks and corners. (4) To pay particular attention to the keeping of the roadside drains perfectly clean. (5) To provide a plot of land for the trenching of the night-soil, and to avoid deep trenching. (6) To provide barrel carts for the removal of fluid refuse, and to trench the refuse properly. (7) To see that the lanes and bye-paths are properly swept. (8) To set apart some of the pucca wells for drinking purposes, and to supply them with iron buckets and chains for raising water. (9) To provide land at a safe distance from the town for the burning of the dead. (10) To provide ground at also a sufficient distance from the town, as well as away from any sources of water-supply for burying the Mahomedan dead. (11) Not to allow the clothing, &c., of the dead to be taken by the *domes*. (12) To exercise supervision over the sale of meat and fish in the bazar. (13) Not to allow tanning of hides within the town. (14) To induce the *chamars* to bury the bones of the dead cattle appropriated by them.

PATNA DISTRICT.—**BEHAR TOWN.**—The roads in this town, excepting a few, are unmetalled, and not provided with side-drains; the drainage is very defective; there are pits and excavations which receive the surface drainage; the water-supply is not good; well water is used for all domestic purposes; the conservancy arrangements are neglected; the bye-paths are not properly swept, and defæcation takes place on their sides and everywhere; the public latrines are kept unclean, and their floors and walls are not tarred; the private latrines which exist are mostly sundasses or well-privies; the night-soil is trenched in deep trenches; the offal, &c., of the slaughtered cattle are not properly disposed of; there is no appointed burial or burning-*ghât*; the sanitary condition of the outlying mohullas is entirely neglected. *Suggestions.*—(1) To make the conservancy establishment perform their duties efficiently. (2) To utilize the sweepings in filling up the pits and excavations, taking in hand such a number at a time as can be filled up within a given time. (3) To suppress the well-privies. (4) To trench the night-soil more carefully than is at present done, avoiding deep trenches and trenching on the bank of the river, or in its bed. (5) To stop promiscuous defæcation. (6) To induce the people to use the public latrines. (7) To provide more public latrines at convenient places, and to keep the existing ones properly clean; to tar their floors and walls at least twice a month; and to provide two *gumlas* to each of the cells. (8) To establish a burning-*ghât* and a general burial-ground at a safe distance from the town, and to see that the dead are thoroughly cremated. (9) To keep the lanes properly clean. (10) To set apart some of the wells the water of which is reputed to be good, solely for drinking purposes. (11) To provide each of the public wells with an iron bucket and chain for raising water. (12) To entertain at least two vaccinators to keep the town thoroughly vaccinated. (13) Not to allow ex-inoculators to work within the town. **BARRH TOWN.**—The roads in this town, excepting two, are unmetalled, and not provided with side-drains; the drainage is defective; pits and excavations exist and receive part of the surface drainage; the water-supply arrangements are not quite satisfactory; the lanes are not swept; there is no public latrine for females; the poorer classes defæcate everywhere; the private latrines consist mostly of sundasses or well-privies, and cess-pools are attached to most of the houses; and there is no appointed slaughter-house or burial-place or burning-*ghât*. *Suggestions.*—(1) To utilise the sweepings in filling up the pits and excavations, taking one at a time and thoroughly filling it up before proceeding to another. (2) To provide more public latrines at convenient places for males as well as for females. (3) To keep the lanes and bye-paths clean. (4) To stop the practice of promiscuous defæcation. (5) To make arrangement to remove the fluid refuse from private houses. (6) To suppress sundasses or well-privies. (7) To establish a slaughter-house. (8) To provide a general burial-ground.

246. **SANITARY INSPECTIONS OF THE SUBORDINATE STAFF IN THE BEHAR CIRCLE.**—The Inspectors and Head Vaccinators submitted reports about the sanitary condition of villages visited by them. Their inspections extended over 949 villages in thanas *Bhabuah, Mohania, Khargher, Sasseram, Buxar, Dumraon, Belouti, Peroo, Dhangaon* and Arrah in **Shahabad** and thanas *Bankipore, Manair, Bikram, Massaurhi, Futwa, Barh, Mokameh, Hilsa, Ataserai, Chandi, Behar* and *Silao* in **Patna**. The reports drawn

up by them are very meagre, and there is nothing in them sufficiently interesting to occupy a place here.

247. **ORISSA CIRCLE.**—*Apothecary P. Veeriah Naidu, Deputy Sanitary*

<i>Cuttack district.</i>		<i>Puri district.</i>	
Thanas.	No. of villages.	Thanas.	No. of villages.
Cuttack	211	Khurda	123
Jagatsingpur	71	Banpur	37
Tirtol	38		
Jajpur	10	Total	160
Dhormsala	71		
Keudrapara	7		
Patamundai	7		
Aul	7		
Salipur	10		
Total	432	Angool	3

Commissioner.—This officer visited, for sanitary inspection, one town and 595 villages in the thanas in the districts marginally cited. His report, an abstract of which is subjoined, furnishes a fair account of the localities inspected by him.

248. **Cuttack DISTRICT.**—**CUTTACK** thana.—*Dwellings and Domestic cleansing.* Almost all the villages in this thana are situated on fairly elevated good ground.

A few of them are surrounded by mango topes and low jungle. The dwelling-houses are crowded but freely ventilated. Personal cleanliness is limited to bathing. The cattle-sheds are situated within the inner yards, and none of them are perfectly clean. Conservancy does not exist in any of the villages. Sewage and refuse, &c., are heaped up in and around houses, and on the surroundings of villages. The people resort for obeying the calls of nature to jungles, fields, roadsides, surroundings of tanks and any other available place. *Drainage* is defective. The kutchha roads and foot-paths often serve as drains. *Water-supply.*—This is obtained from rivers, wells, tanks and running streams. The water of the wells is generally good; that from rivers is often, during outbreaks of epidemic disease, such as cholera, small-pox, &c., contaminated by the burning and burying of the dead on their banks. *Disposal of the dead.*—The dead are buried and burnt far from villages and sources of drinking water, near jungles, in fields, on open plains and beds of rivers, and are sometimes thrown into rivers. The dead cattle are thrown on the fields or into ditches. *General health* was, on the whole, good. **JAGATSINGPUR** thana.—The sanitary condition of the villages in this thana is the same as that of those in the Cuttack Sudder thana under all heads. The only variations are in regard to water-supply, which is plentiful in each of the villages, exceeding that of many villages in the Sudder thana, and being better in quality. Besides wells, tanks and rivers, main and sub-canals combined together meet the demand. Much difficulty was experienced in dissuading the people from using the surroundings of tanks as latrines which is customary, not only in this thana, but in all the thanas throughout the interior of Orissa. *General health* was good, except in Chuklipara, where malarial fever was prevalent during the last quarter of the year, owing to unusual rainfall. **TIRTOL** thana.—Many villages in this thana are situated on low levels. The dwelling-houses are overcrowded and ill-ventilated. Negligence in personal cleanliness, carelessness in adopting proper means for removal of sewage and refuse, imperfect way of cleaning the court-yards and surroundings of houses and cattle-sheds, and impurity of water-supply,—all these combinedly constitute a source of unhealthiness in this thana. Cowdung and cow-house litter are generally accumulated in ditches behind houses for manure. *General health.*—Fever, attributed to heavy rainfall, was prevalent prominently in village Sobha during the months of October, November and December last. **JAIPUR** thana.—It is gratifying to read much of the following report regarding this thana. The sanitary condition of the villages is satisfactory. No defects, worthy of mention, exist in the situation of its villages and construction of the dwellings, except that ventilation is defective, as most of them have been rebuilt after the last cyclone. The roads and streets are kept clean; the drainage is fair; the people resort for calls of nature to fields, river-sides or other available places; the *water-supply* is abundant and good; conservancy is, however, absent from all the villages; the dead cattle are thrown into fields and beds of rivers, and sewage and refuse are cast into khals. The dead are buried and burnt far from villages and sources of drinking water. *Food* sufficient. *General health* was good. **DHARMSALA** thana.—The villages of this thana are situated, some on elevated and some on low lands. *Dwellings.*—The houses are crowded and defective in ventilation. *Roads* are used as drains, and are generally kept unclean. *Water-supply.*—Tanks, jhils and khals are in many villages the

sources of water-supply, but their water is very indifferent, and is believed to cause diseases, such as cold, cough, fever, dysentery and bowel-complaints. *Domestic cleansing*.—Personal cleanliness is neglected. The cattle are kept in the compounds of houses. Sewage and refuse are generally accumulated in ditches near the villages. The surroundings of tanks, fields and low jungles are used as latrines. *Disposal of the dead*.—The dead are cremated and interred far from the villages and sources of water-supply. **SALIPUR thana**.—*Dwellings and Domestic cleansing*.—The villages are situated on fairly elevated ground. Almost all the dwelling-houses are made of mud. They are ill-ventilated; but their interior and court-yards are kept clean. The cattle-sheds are situated within the outer yards, but the cowdung and refuse matters are heaped behind houses. Conservancy *nil*. The roads are used as latrines during night. *Drainage* is very defective. The roads and paths serve as drains. *Water-supply*.—Wells and tanks supply this; the well water is good, but the tanks are unprotected. *Disposal of the dead*.—The burying and burning places are far from each village and its sources of drinking water. The dead cattle are thrown into fields or ditches. *General health* was good. **KENDRAPARA thana**.—*Dwellings and Domestic cleansing*.—The villages in this thana are situated, some on elevated and some on low ground. The floors of some houses are subject to ground damp, and ventilation is generally defective. The cattle-sheds and court-yards are kept unclean, and refuse, &c., are thrown on the sides of, or accumulated behind, houses. The *Roads* are kutcha, narrow and filthy. *Water-supply* is taken from wells and tanks, which are not properly protected from pollution. *Disposal of the dead*.—The burning and burying places are far from the villages, and it was noticed that corpses are in some villages devoured by jackals in the course of a day, and nothing but the skeletons are found lying on the ground on the next day. The dead cattle are thrown on the outskirts of the villages. *General health* was good, except that fever and dysentery prevailed in a few villages, attributed to bad water. **PATAMUNDAI thana**.—The situation of the villages in this thana, the condition of the dwelling-houses with respect to their floors and ventilation, the housing of cattle, and the disposal of refuse matters bear a close similarity to those obtaining in the Kendrapara thana. There are no pucca roads. The paths which serve the purposes of drains are kept clean. The *water-supply* is obtained from rivers, wells and tanks. The river water is contaminated by burying and burning of dead bodies on its banks. The wells are everywhere protected from inward drainage by means of good parapets. The conservancy arrangements are *nil* throughout; the people defæcate wherever they find it convenient to do so, and refuse matters of all descriptions are thrown into ditches. Firewood being very dear in this part of the country, the great bulk of the people are unable to afford sufficient fuel for burning their dead, and the bodies are, therefore, slightly burnt and then thrown into the rivers. *General health* was good. **AUL thana**.—The houses in many villages are subject to ground-damp during floods and heavy rains, their floors being almost on a level with the surrounding country. The cattle-sheds are close to houses, but are kept clean. The village roads are simply narrow foot-paths between the rows of houses, and serve both as pathways and drains. With regard to the arrangements relating to water-supply, conservancy, disposal of the dead and food, no difference exists between this thana and thana Patamundai. *General health* was good. *Registration* was tested in the manner required by the rules, but the scrutiny was insufficient. *Advice tendered*.—The Deputy Sanitary Commissioner reports that he explained the benefits of observing sanitary precautions to the people, and pointed out the defects which affected health, and that (what is very remarkable) such defects were at once partially or wholly rectified.

249. **Puri DISTRICT**.—**KHURDA thana**.—*Dwellings and Domestic cleansing*.—A great number of the villages in this thana are situated generally on high ground, and jungle abounds in many of them. Ventilation is free, though overcrowding of inmates exists in many dwelling-houses. The pathways and the surroundings of the houses are kept filthy, and conservancy is absent. *Drainage* is defective there are no drains. *Water-supply* is taken from tanks, which are subject to surface pollution, and many of which dry up during the hot season. *General health*.—The villages which are surrounded by jungle appear to be subject to fever, specially at the commencement of the cold season.

BANPUR thana.—Many villages in this thana are situated along the coast of the Chilka lake, the residents being fishermen. Those which are situated near hills, jungle and marshy places, are very unhealthy throughout the year, but those which lie on two sides of the main road to Madras generally enjoy good health. *Dwellings.*—The houses a great number of in the villages are subject to ground-damp, the floors being on a level with the surrounding country. *Drainage.*—There is no system of drainage: the roads serve the purposes of drains. *Domestic cleansing.*—The roads are kept filthy; cattle-sheds are situated within the compounds of houses, and are often unclean; and the sewage and refuse are thrown into ditches near the villages which, when rotting, emit intolerable stench. The *water-supply* is had from wells and tanks. The former are nowhere protected, and the latter, though they supply good and sufficient water, are in some places little cared for. It was noticed in village Kunda Chungudia that bathing water was allowed to flow into the wells. *Disposal of the dead.*—The burning and burying ghâts are in some places too close to the villages.

250. **MUNICIPAL INSPECTION.**—**ANGUL town.**—*Dwellings* and *Domestic cleansing.*—This town is situated on fairly elevated ground. The dwellings form two lines with a broad pucca road, between extending to a length of one mile, and are freely ventilated. The cattle-sheds are situated close to the houses, and their dung and urine are removed and heaped up behind each house. There are no conservancy arrangements; but refuse, &c., are carried to the outskirts of the town. There is no system of drainage; the streets and roadsides serving as drains. *Water-supply.*—There are six pucca wells, one at each of the following places, viz., circuit-house, police compound, tehsildar's quarters, tehsildar's cutcherry, old post-office, and new market, and all of them are surrounded by masonry parapets. The level of the water on them during the hot season is generally 30 feet below the ground surface. Mathna, a small river, rising from the adjoining hills in the west, running by the side of the new market towards the east, joining the river Lingera near Jursinga, and falling into the river Brahmani at a distance of seven miles below Angul, is also resorted to, but it dries up in the hot season, before which bunds are erected in three different places by the tehsildar for securing water. There is in addition a big tank, 1,000 by 800 feet, the water of which is excellent, and is used both for drinking and bathing. The tehsildar was told to persuade the people to discontinue bathing in it. *Disposal of the dead.*—The burning and burying places are far from the villages and sources of water-supply, the ground for the Mahomedans being situated at the foot of a hill to the west. Dead cattle are removed to the outskirts of the town. *Health.*—Malarial fever prevails in this town generally at the close of any season, and is said to be due to the surrounding jungles. *Registration.*—Deaths are not registered.

251. In the end of August the ship *Benvenue* arrived in sand ballast from Colombo in the Port of Chittagong. After a stay of some days in Port, the master of the ship sent for the Civil Surgeon to see one of his men who was very ill. The following were the symptoms:—Intense giddiness, with frontal pain; suffused eyes; dazed look; heavily-coated tongue; high continued fever; and constipation. The dizziness in this case almost amounted to fainting. Accompanying these symptoms were racking pains without swelling in all the joints. These were present throughout in every case that occurred afterwards, all more or less characteristic of the epidemic giddiness, suffusion of eyes, frontal pain, and the broken bone or rather dislocated joint sensation, with fever in a greater or less degree. No rash was seen at any time in any one. Those cases which were more severe at the onset recovered soonest, and in them the pains disappeared quicker. The Civil Surgeon himself was attacked, and in his case the fever was mild, but the pain in the joints lingered. The treatment was routine throughout, namely: purgatives followed by diaphoretics and quinine, and regulation of diet. Nearly all cases ran a definite fever course, and afterwards the length of convalescence seemed to depend on the violence of the fever. This was generally over in four days in the severe forms, and eight or ten in the milder. There was no mortality. The first case in the *Benvenue* was followed by every one in the ship being attacked, from the master downwards. The next

Researches relating to special diseases.
Dengue fever in the Port of Chittagong.

ship attacked was the *Buckhurst* that had come from the Straits ; then a large German vessel in sand ballast from Colombo, and then, simultaneously, almost all the other vessels in Port ; the total number of ships affected being 15, and only one completely escaping. The disease at no time assumed any serious aspect, and the men were seldom more than a week off duty. It died away in November, and with the exception of two other Europeans, besides the Civil Surgeon, who also were brought into contact with the shipping, no other cases were reported to have occurred in the town, where fever was prevalent, but not accompanied by pains. The cause of the disease could not be traced, but the belief is that sand ballast, and notoriously Colombo sand ballast, is unhealthy.

R. LIDDERDALE, M.D.,

*Deputy Surgeon-General,
Sanitary Commissioner for Bengal.*

The 18th July 1887.

APPENDIX No. I.

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VITAL STATISTICS OF THE DISTRICTS IN BENGAL

FOR THE YEAR 1886.

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ANNUAL FORM No. I.—BIRTHS registered in the principal Municipalities and Towns in the Districts of the Bengal Province during the year 1886.

1	2	3	4	5			6			7	8	9
DISTRICTS.	Number.	MUNICIPALITIES AND TOWNS.	Population according to Census of 1881.	NUMBER OF BIRTHS REGISTERED.			RATIO OF BIRTHS PER 1,000 OF POPULATION.			Number of males born to every 100 females born.	Excess of Births over Deaths per 1,000 of Population.	Excess of Deaths over Births per 1,000 of Population.
				Male.	Female.	Total.	Male.	Female.	Total.			
Burdwan	1	Burdwan	31,080	894	369	763	11'50	10'82	22'39	106	.....	3'54
Bankura	2	Bankura	18,747	226	184	410	12'05	9'81	21'87	122	4'27	.....
	3	Bishenpur	21,283	243	241	484	11'41	11'32	22'74	100	5'22	.....
Midnapore	4	Midnapore	33,560	281	236	517	8'37	7'03	15'40	119	.....	6'14
Hughli	5	Hughli and Chinsurah	38,718	420	417	843	11'00	10'77	21'77	102	.....	9'06
	6	Serampore	26,496	375	340	715	14'15	12'83	26'98	110	.....	16'06
Howrah	7	Utterpara	5,510	67	54	121	12'15	9'80	21'96	124	2'19	.....
	8	Howrah	90,513	1,003	949	1,952	11'04	10'45	21'49	105	.....	1'14
24-Perkunnahs	9	Bali	11,815	125	114	239	8'43	7'69	16'13	109	.....	4'89
	10	Suburbs of Calcutta	251,439	2,505	2,290	4,855	10'20	9'10	19'30	112	.....	21'21
Nuddea	11	Bussirhat	20,469	67	75	162	4'25	3'66	7'92	116	.....	2'85
	12	Kishnaghur	27,477	305	239	544	11'70	8'69	19'79	127	.....	1'96
Jessore	13	Santipore	29,687	209	145	354	7'04	4'88	11'92	144	1'65	.....
	14	Ranaghat	8,643	26	22	48	2'99	2'53	5'52	118	.....	4'26
Baishakhye	15	Jessore	8,495	30	20	50	3'53	2'35	5'88	150	.....	16'36
Darjiling	16	Bauleah	19,791	281	261	542	14'19	13'18	27'38	107	.....	9'05
Dacca	17	Darjiling	7,976	81	33	64	8'88	4'13	8'02	63	.....	11'99
Faridpore	18	Dacca	80,101	750	554	1,304	9'35	6'91	10'26	135	.....	6'01
Mymensing	19	Faridpore	10,263	47	42	89	4'57	4'09	8'67	111	.....	24'16
Chittagong	20	Jamalpore	16,091	223	170	393	13'85	10'56	24'42	131	.....	2'97
Tipperah	21	Chittagong	22,130	269	251	520	12'15	11'34	23'49	107	2'26	.....
	22	Comillah	13,506	225	158	393	10'65	11'69	28'35	112	.....	6'0
Patna	23	Brahmanberiah	17,543	308	270	578	17'55	15'30	32'04	114	.....	3'02
	24	Patna	160,237	1,840	1,622	3,462	11'48	10'12	21'60	113	.....	11'75
Gya	25	Behar	48,971	475	492	967	9'69	9'84	19'54	98	6'70	.....
	26	Barh	23,610	201	109	400	8'51	8'42	16'91	101	.....	9'74
Shahabad	27	Gya	76,121	1,128	1,133	2,261	14'81	14'88	29'70	99	.....	21'81
Mozufferpore	28	Arrah	43,465	107	87	194	2'46	2'00	4'46	122	.....	1'18
	29	Mozufferpore	42,742	441	586	927	10'31	9'03	19'34	140	.....	7'61
Durbhanga	30	Sitamurhi	6,125	80	99	185	14'04	16'16	30'20	142	3'43	.....
	31	Durbhanga	60,096	974	888	1,862	14'73	13'43	28'16	109	3'07	.....
Saron	32	Chupra	53,249	376	303	679	7'06	5'60	12'75	124	.....	1'67
	33	Revilgungo	12,494	234	179	413	18'73	14'32	33'05	139	5'12	.....
Chumpran	34	Bettiah	21,263	438	407	845	20'59	19'14	39'74	107	8'56	.....
	35	Monghyr	57,520	903	802	1,705	15'69	13'94	29'64	112	5'83	.....
Monghyr	36	Jamalpore	13,563	290	303	593	21'38	22'34	43'72	95	11'95	.....
	37	Shaikpura	12,517	157	159	316	12'54	12'70	25'24	98	.....	7'59
Bhagulpore	38	Bhagulpore	57,437	919	836	1,755	15'09	14'55	30'54	109	.....	5'14
Purneah	39	Purneah	15,016	140	98	238	9'32	6'19	15'51	150	.....	16'52
	40	Cuttack	43,239	425	391	816	9'82	9'04	18'87	108	3'29	.....
Cuttack	41	Kendrapara	15,697	220	214	434	14'01	13'68	27'64	102	.....	1'98
	42	Jajpur	11,233	85	59	144	4'89	5'25	10'14	93	.....	9'55
Puri	43	Puri	24,781	170	130	300	6'85	5'24	12'10	130	.....	47'77
Lohardugga	44	Ranchi	18,443	153	119	272	8'29	6'45	14'74	128	.....	5'59
Manbhum	45	Parulia	9,304	102	70	181	10'96	8'49	19'45	129	2'20	.....
GRAND TOTAL ...			1,650,935	19,339	16,494	31,734	11'10	9'93	21'04	111	.....	7'94

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

OFFICE OF THE SANIT. COMM. FOR BENGAL, }

The 8th March 1887.

ANNUAL FORM NO. II.—Deaths registered in the DISTRICTS of the Bengal Province during the year 1886.

1	2	3	4	5	6			7	8			9		
Number.	DISTRICTS.	Population according to Census of 1881.	Area in square miles.	Average Population per square mile.	NUMBER OF DEATHS REGISTERED.			Number of males died to every 100 deaths of females.	RATIO OF DEATHS PER 1,000 OF POPULATION.			MEAN RATIO OF DEATHS PER 1,000 DURING PREVIOUS FIVE YEARS.		
					Male.	Female.	Total.		Male.	Female.	Total.	Male.	Female.	Total.
Burdwan Division.														
1	Burdwan	1,991,823	2,697	516.06	14,448	12,693	27,126	113	21.61	17.52	19.48	31.18	25.96	28.46
2	Bankura	1,041,752	2,031	512.46	9,004	8,011	17,015	119	18.93	14.94	16.80	24.78	21.36	23.02
3	Birbhum	791,428	1,752	452.40	8,474	7,783	16,256	108	22.20	18.84	20.46	31.42	27.45	29.36
4	Midnapore	2,515,505	5,082	494.09	27,060	25,151	52,111	111	22.40	19.76	21.11	23.59	19.23	20.89
5	Hughli	603,050	880	753.45	7,255	6,730	13,984	107	23.99	19.89	21.10	24.88	21.23	22.06
6	Serampore	351,955	843	1,024.11	3,007	3,391	7,298	115	22.40	19.09	20.73	20.96	17.48	19.21
	Total of Hughli, including Serampore ...	1,015,005	1,223	829.93	11,102	10,130	21,232	110	23.77	19.29	20.97	23.48	19.96	21.69
7	Howrah	636,381	476	1,334.83	6,569	5,301	11,870	123	20.75	16.93	18.68	20.66	16.70	18.67
Presidency Division.														
8	24-Pergunnahs, exclusive of Suburbs of Calcutta ...	1,618,420	2,007	771.78	16,631	13,721	30,352	121	20.07	17.36	18.75	22.50	18.92	20.76
	Suburbs of Calcutta ...	231,430	23	10,932.13	5,783	4,404	10,187	131	39.28	42.25	40.51	45.90	44.92	43.49
	Total of 24-Pergunnahs	1,869,850	2,120	882.00	22,414	18,125	40,539	123	22.97	20.26	21.68	24.03	21.06	24.08
9	Nuddea	1,655,781	2,755	600.98	20,011	21,850	41,874	119	33.39	35.70	28.91	46.93	37.18	41.93
10	Jessore	1,039,375	2,925	663.03	24,409	20,906	45,402	117	26.53	21.33	23.41	24.23	22.98	25.54
11	Murshidabad	1,226,790	2,144	672.20	14,730	12,053	27,383	116	26.11	19.76	22.33	31.57	23.75	27.64
12	Khulna	1,079,948	2,077	519.98	12,245	11,637	23,882	105	21.54	22.74	22.11	23.43	23.18	23.31
Rajahmundry Division.														
13	Dinaipur	1,514,346	4,118	367.74	22,125	17,071	39,196	129	28.28	23.31	25.88	21.06	16.80	18.91
14	Rajahmundry	1,338,634	2,301	586.04	19,478	16,085	35,563	116	29.50	24.61	27.01	35.07	23.20	31.08
15	Eluru	2,097,904	3,486	601.93	36,923	30,609	67,532	120	34.58	29.79	32.22	20.30	17.09	18.72
16	Bonga	734,358	1,408	490.23	10,312	8,803	19,115	117	27.67	24.83	26.09	25.48	22.18	23.85
17	Pudna	1,311,728	1,847	710.19	22,008	18,721	40,729	122	35.83	28.21	31.73	27.07	22.23	24.62
18	Darjiling	1,244,137	1,344	129.53	2,358	1,680	4,047	139	26.37	25.30	25.91	11.90	10.90	11.13
19	Jalpaiguri	581,662	2,884	201.65	11,211	9,330	20,541	120	30.69	33.80	36.32	20.26	17.78	19.09
Dacca Division.														
20	Dacca	2,116,350	2,797	756.05	26,845	22,670	49,515	114	24.99	20.94	22.92	22.53	18.40	20.42
21	Faridpur	1,631,734	2,467	719.78	16,107	13,287	29,394	121	19.98	16.09	18.01	16.47	13.07	14.75
22	Buckergunge	1,900,589	3,049	623.93	25,595	25,190	50,775	101	26.28	27.10	26.71	21.48	23.56	24.51
23	Mymensing	3,651,968	6,287	485.41	30,420	24,784	55,204	122	19.58	16.53	18.08	11.95	9.64	10.81
Chittagong Division.														
24	Chittagong	1,132,341	2,567	441.11	8,164	7,634	15,798	106	15.35	12.70	13.95	19.62	15.13	17.24
25	Noakhali	820,772	1,631	503.17	9,849	8,743	17,592	98	20.82	21.67	21.19	20.72	19.71	19.93
26	Tippurah	1,519,338	2,491	609.93	14,240	12,918	27,158	110	18.47	17.25	17.87	15.86	13.33	14.61
Patna Division.														
27	Patna	1,756,850	2,079	845.05	22,234	19,710	41,944	112	25.89	21.04	23.87	28.53	24.38	26.40
28	Gya	2,124,682	4,712	450.91	27,809	26,441	54,250	105	26.70	24.44	25.53	23.95	20.91	22.40
29	Shahabad	1,964,909	4,305	456.15	26,905	24,181	51,086	107	38.81	33.08	36.17	20.62	16.79	18.74
30	Muzaffarpore	2,582,060	3,003	859.83	19,875	14,425	34,300	138	15.70	10.88	13.24	18.34	15.58	16.92
31	Darbhanga	2,633,447	3,335	789.64	19,511	15,405	34,916	126	15.05	11.61	13.25	16.03	12.52	14.25
32	Saran	2,990,382	2,022	809.71	25,817	19,887	45,704	129	23.81	16.61	20.04	21.84	15.14	18.32
33	Chunpuran	1,721,008	3,531	487.27	19,502	16,119	35,620	120	22.39	18.94	20.08	18.40	14.52	16.48
Bhagalpore Division.														
34	Monghyr	1,969,774	3,921	502.37	20,947	27,070	50,017	110	30.79	27.05	28.89	19.41	15.89	17.62
35	Bhagalpore	1,906,164	4,269	446.67	27,718	24,621	52,339	112	28.80	24.94	26.62	32.77	19.10	20.93
36	Purneah	1,848,087	4,960	372.62	21,344	16,824	38,168	128	22.69	18.45	20.76	21.19	17.25	19.26
37	Maddah	710,148	1,891	375.70	6,313	4,708	11,021	134	18.19	13.95	15.51	33.98	17.68	20.74
38	Sonthal Pergunnahs ...	1,568,093	5,456	287.41	11,860	9,558	21,408	123	15.98	12.21	13.65	15.25	12.03	13.04
Orissa Division.														
39	Cuttack	1,705,065	3,633	469.09	18,145	17,031	35,176	100	20.07	18.56	19.59	21.80	19.30	20.52
40	Puri	889,457	2,473	359.27	10,566	10,121	20,687	104	23.05	22.90	23.28	23.99	21.06	22.03
41	Bala	945,280	2,060	457.54	12,540	12,113	24,653	105	27.17	25.04	26.08	20.07	23.60	24.29
Chota Nagpore Division.														
42	Hazaribagh	1,104,742	7,021	157.35	10,980	10,655	21,635	109	20.15	17.90	19.04	19.99	16.97	18.46
43	Lohardugga	1,600,244	12,645	126.60	14,037	12,493	26,530	117	18.37	16.38	16.86	18.31	15.31	16.70
44	Ranchhura	801,964	4,390	182.60	4,487	3,051	7,538	122	15.98	12.90	14.44	16.47	13.40	14.94
45	Manbhum	1,058,238	4,147	255.18	8,503	7,157	15,760	120	16.35	13.43	14.88	15.71	12.70	14.20
TOTAL FOR THE PROVINCE														
		66,163,981	144,983	456.73	781,335	673,920	1,455,305	115	23.79	20.21	21.99	22.39	18.44	20.35

* A village was transferred from Midnapore to Hughli, but as its area in square miles is not known, these figures cannot be altered so as to indicate the reduction and increase respectively caused by the transfer.

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 8th March 1887

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. III.—Deaths registered in the Districts of the Bengal Province during EACH MONTH of the year 1886.

1	2	3												4
Number.	DISTRICTS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL DEATHS REGISTERED DURING THE YEAR.
Burdwan Division.														
1	Burdwan	2,145	1,925	2,426	2,208	1,922	1,741	1,723	2,025	1,903	2,104	3,002	3,762	27,180
2	Bankura	1,292	1,319	1,587	1,605	1,508	1,205	1,176	1,511	1,200	1,359	1,792	1,981	17,515
3	Birbhum	1,039	918	1,072	1,194	1,104	1,045	1,105	1,386	1,359	1,410	1,804	2,411	16,255
4	Midnapore	5,160	4,717	4,326	3,743	3,447	3,023	3,419	3,950	3,459	4,670	5,896	7,192	53,114
5	Hughli	1,275	1,161	1,250	1,002	856	620	750	900	999	1,267	1,731	2,181	13,094
6	Serampore	784	495	545	468	400	340	354	462	538	694	1,030	1,238	7,299
	Total of Hughli, including Serampore	2,009	1,656	1,795	1,470	1,256	900	1,104	1,362	1,537	1,961	2,761	3,421	21,392
7	Howrah	1,121	861	987	809	612	559	670	806	829	1,039	1,037	1,880	11,870
Presidency Division.														
8	24 Pargunnahs, exclusive of Suburbs of Calcutta	3,256	2,863	2,128	2,031	1,462	1,856	1,593	1,982	1,877	2,390	3,590	6,275	30,352
	Suburbs of Calcutta	938	779	625	681	579	614	600	762	785	1,126	1,350	1,376	10,187
	Total of 24 Pargunnahs	4,194	3,641	2,753	2,712	2,071	1,870	2,250	2,744	2,662	3,516	4,940	7,651	40,539
9	Nuddea	3,372	3,008	4,082	4,900	4,183	2,543	2,193	3,189	3,022	3,818	6,023	7,393	47,874
10	Jessore	6,352	4,165	4,070	5,371	3,046	1,880	2,042	2,025	2,456	3,156	4,511	6,298	45,462
11	Murshidabad	1,726	1,468	1,613	2,240	2,040	1,630	1,628	1,970	2,175	2,060	3,062	4,044	27,383
12	Khulna	2,709	1,072	1,695	1,556	1,303	1,015	1,244	1,313	1,775	2,011	3,300	4,169	23,882
Rajshahye Division.														
13	Dinajpur	3,350	2,832	2,352	2,923	2,605	2,315	2,321	2,816	2,991	3,920	5,063	5,111	39,196
14	Rajshahye	3,024	2,378	2,250	2,800	3,111	2,067	1,900	2,389	2,438	3,520	4,460	5,960	36,163
15	Rungpore	5,801	4,410	5,077	4,002	4,662	4,092	4,003	4,534	5,084	5,728	8,483	10,775	67,615
16	Rogra	1,571	1,153	1,398	1,425	1,191	1,031	1,361	1,547	1,656	1,778	2,369	2,830	19,115
17	Patna	3,958	2,900	3,486	6,213	4,308	2,324	2,247	2,125	2,477	3,113	5,936	4,542	41,629
18	Darjiling	107	213	210	237	293	432	553	462	411	348	333	296	4,047
19	Jalpaiguri	1,520	1,289	1,567	1,923	1,560	1,353	1,483	1,329	1,335	1,970	2,796	2,418	20,541
Dacca Division.														
20	Dacca	5,036	3,031	3,302	4,511	3,640	2,501	2,399	2,417	3,083	3,832	5,325	6,398	48,515
21	Faridpore	5,361	1,983	2,652	5,494	3,286	1,342	1,182	1,218	1,377	1,691	2,145	3,063	29,394
22	Backergunge	5,129	3,352	3,730	4,120	5,595	2,731	2,774	2,464	2,677	3,656	7,094	6,235	60,775
23	Mymensing	6,265	4,097	4,288	5,218	5,283	3,830	3,600	3,316	3,630	4,406	5,293	5,965	55,210
Chittagong Division.														
24	Chittagong	1,541	1,873	1,370	1,063	1,203	1,208	1,378	1,275	1,252	1,344	1,261	1,530	15,798
25	Noakhali	1,773	1,293	1,245	1,353	1,439	1,341	1,359	1,357	1,201	1,358	1,056	2,042	17,397
	Tipperah	3,184	1,974	2,718	2,080	1,888	1,463	1,453	1,602	1,747	2,259	2,635	3,469	27,158
Patna Division.														
27	Patna	2,430	1,847	1,849	2,103	2,270	3,265	3,473	6,239	4,581	5,110	5,059	3,712	41,944
28	Gya	3,022	2,086	2,308	2,759	2,606	3,188	4,052	6,831	7,690	7,365	7,977	4,476	54,300
29	Shahabad	3,452	2,483	2,322	2,722	2,406	3,108	3,991	6,869	9,829	12,723	12,974	8,118	71,046
30	Moulteppore	2,412	1,970	2,205	1,176	1,894	2,365	2,589	3,041	3,022	3,392	4,771	4,363	34,209
31	Burhanga	2,786	2,056	1,728	2,221	2,130	2,953	3,004	2,903	3,193	3,685	4,233	3,061	34,916
32	Sarun	2,807	2,825	2,683	3,988	2,587	3,205	3,793	5,194	5,183	4,783	5,352	4,214	45,704
33	Chumparun	2,023	1,834	2,014	2,389	2,603	2,630	2,686	3,467	3,494	3,379	4,800	4,201	35,629
Bhagulpore Division.														
34	Monghyr	3,432	3,174	3,629	3,243	3,191	3,724	3,505	5,638	5,592	7,131	9,317	5,341	58,917
35	Bhagulpore	3,433	2,562	2,841	3,441	3,292	3,583	3,609	4,411	5,578	6,545	7,140	5,901	52,342
36	Purneah	3,217	2,395	2,844	3,615	2,380	2,606	2,378	2,359	2,240	2,887	5,129	5,178	38,308
37	Malda	772	748	741	905	706	670	601	698	732	1,263	1,392	1,923	11,021
38	Sonthal Pargunnahs	1,667	1,150	1,210	1,713	1,655	1,481	1,585	2,315	2,383	2,112	1,910	2,006	21,408
Orissa Division.														
39	Cuttack	4,880	3,055	3,822	2,947	2,454	2,087	2,187	2,154	1,907	2,398	2,848	3,587	35,170
40	Puri	1,945	1,509	1,402	1,468	1,241	1,101	1,702	1,692	1,226	1,349	2,513	3,550	20,687
41	Balasore	2,458	2,235	2,459	1,779	1,643	1,170	1,362	1,583	1,617	1,937	2,796	3,718	24,055
Chota Nagpore Division.														
42	Hazaribagh	1,469	1,187	1,315	1,745	1,701	1,587	1,873	2,142	2,148	2,104	2,005	1,989	21,035
43	Lohardugga	1,730	1,603	1,763	2,111	2,105	2,216	2,521	3,002	2,876	2,584	2,048	2,114	27,132
44	Singbhum	724	612	733	745	640	584	632	689	679	698	726	778	8,138
45	Manbhum	954	904	1,248	1,615	1,566	1,282	1,591	1,803	1,521	1,195	1,191	1,240	15,750
	TOTAL FOR THE PROVINCE ...	123,101	94,331	102,151	115,476	100,827	88,329	93,422	114,440	119,371	139,188	177,012	187,707	1,455,305
	RATIO OF DEATHS PER 1,000 OF POPULATION IN EACH MONTH ...	1.86	1.42	1.54	1.74	1.52	1.33	1.41	1.72	1.80	2.10	2.67	2.83	21.80

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 8th March 1887.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. IV.—Deaths registered according to AGE in the Districts of the Bengal Province during the year 1886.

1	2	3	4	5	6	7	8	9	10	11	12										
Number.	DISTRICTS.	UNDER 1 YEAR.		1 AND UNDER 5 YEARS.		5 AND UNDER 10 YEARS.		10 AND UNDER 15 YEARS.		15 AND UNDER 20 YEARS.		20 AND UNDER 30 YEARS.		30 AND UNDER 40 YEARS.		40 AND UNDER 50 YEARS.		50 AND UNDER 60 YEARS.		60 YEARS AND UPWARDS.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
		Burdwan Division.																			
1	Burdwan	2,184	1,810	1,108	1,105	1,030	873	743	400	819	880	1,091	1,919	1,984	1,442	1,781	1,323	1,182	1,074	1,564	1,758
2	Bankura	1,595	1,395	1,019	1,004	728	611	444	342	655	491	1,132	1,023	1,142	787	1,021	689	822	697	1,107	1,059
3	Birbhum	1,901	1,512	806	789	628	513	388	286	310	465	892	1,009	1,020	845	864	745	753	647	742	941
4	Midnapore	4,538	3,962	3,047	3,148	2,003	1,824	1,300	806	1,351	1,330	3,000	3,108	3,309	2,725	3,044	2,173	2,482	2,224	3,739	4,044
5	Hughli	907	787	662	678	404	404	305	242	368	325	1,030	1,078	958	738	984	808	745	657	734	926
6	Scrampore	632	428	469	424	287	254	150	118	162	157	453	501	444	377	477	345	354	285	489	502
	Total of Hughli, including Scrampore.	1,629	1,215	1,131	1,102	755	658	455	300	520	582	1,483	1,579	1,402	1,115	1,465	1,150	1,099	942	1,223	1,277
7	Howrah	1,000	780	830	772	430	401	278	157	287	264	724	644	685	400	705	394	536	408	1,025	993
Presidency Division.																					
8	24-Pergunnahs, exclusive of Suburbs of Calcutta.	1,009	1,448	2,082	1,954	1,687	1,304	957	658	951	980	1,982	1,041	1,833	1,302	1,553	1,109	1,280	1,029	2,321	1,993
	Suburbs of Calcutta ..	948	783	594	538	254	173	153	114	330	269	1,044	681	686	517	545	319	430	391	481	606
	Total of 24-Pergunnahs	2,917	2,181	2,676	2,492	1,941	1,477	1,110	772	1,281	1,249	3,026	2,622	2,824	1,819	2,098	1,428	1,728	1,417	2,807	2,659
9	Nulden	2,900	2,303	4,242	3,973	8,857	9,041	8,453	1,482	1,441	1,239	2,438	2,233	2,330	1,770	2,206	1,578	1,500	1,578	2,507	2,921
10	Jessore	1,236	1,118	2,915	2,702	8,901	2,233	1,940	1,345	1,339	1,426	3,077	3,082	3,201	2,504	2,703	2,122	2,092	1,772	2,943	2,697
11	Meerutabad	1,761	1,448	1,681	1,893	1,687	1,311	1,132	371	908	711	1,772	1,419	1,523	1,157	1,453	1,084	1,070	1,059	1,453	1,820
12	Khulna	1,801	1,569	1,930	1,808	1,155	916	561	471	540	891	1,057	1,095	1,156	1,187	1,120	834	903	745	2,005	1,601
Rajshahy Division.																					
13	Dinajpur	2,348	2,031	2,225	2,000	1,648	1,202	1,400	837	1,203	1,240	3,201	3,051	3,781	2,541	2,760	1,650	1,790	1,253	1,754	1,245
14	Rajshahy	1,475	1,311	2,853	2,922	3,007	2,108	1,300	860	1,027	1,147	2,354	2,451	2,754	2,031	2,048	1,501	1,157	1,021	1,413	1,273
15	Ranipore	4,224	3,162	3,750	3,353	3,062	2,201	2,108	1,470	2,015	2,167	4,893	5,335	5,054	4,461	4,161	3,191	2,831	2,109	3,845	3,243
16	Boera	1,306	1,131	1,567	1,219	1,000	780	602	361	532	508	1,240	1,388	1,288	994	1,092	805	755	649	1,024	853
17	Pulma	1,513	1,283	3,020	3,648	3,835	2,668	2,140	1,234	1,239	1,154	2,239	2,102	2,250	1,678	1,943	1,300	1,473	1,200	2,398	2,294
18	Darjiling	263	193	310	245	195	153	104	104	148	120	418	254	350	185	203	126	145	97	140	106
19	Jalpaiguri	2,153	1,643	1,004	944	653	496	570	393	529	540	1,207	1,482	1,566	1,264	1,363	1,000	1,110	856	907	700
Dacca Division.																					
20	Dacca	3,866	2,927	4,584	4,143	2,550	1,892	1,525	1,030	1,081	1,327	2,080	2,628	2,531	2,209	2,124	1,521	1,747	1,207	3,754	3,497
21	Fardupore	1,150	907	2,225	1,770	1,598	1,041	1,040	681	768	892	1,642	1,912	1,945	1,603	1,772	1,308	1,339	1,132	2,500	2,011
22	Buckergunge	6,292	5,310	3,942	3,824	2,170	1,610	1,087	711	953	1,152	1,595	2,380	1,877	1,917	1,917	1,505	1,922	1,017	4,200	3,914
23	Mymensing	3,290	2,106	3,781	3,401	2,460	1,850	1,065	1,203	1,557	1,879	3,863	3,975	4,174	2,815	3,073	1,833	2,343	1,913	4,212	3,523
Chittagong Division.																					
24	Chittagong	820	603	603	603	525	441	326	207	337	437	768	662	1,032	870	909	680	870	727	1,476	1,580
25	Naokhali	2,387	1,817	1,270	1,323	473	507	208	190	223	384	465	631	653	850	638	571	608	565	1,071	1,597
26	Tipperah	2,471	2,022	1,500	1,436	954	810	585	322	627	920	1,486	1,929	1,576	1,374	1,297	870	1,036	768	2,638	2,292
Patna Division.																					
27	Patna	4,450	3,727	3,676	3,340	1,600	1,142	600	613	625	577	2,002	1,773	1,882	1,505	2,036	1,645	2,145	1,862	3,014	3,400
28	Gya	4,005	3,448	4,795	4,270	2,012	1,237	1,340	1,088	1,009	1,059	2,368	2,779	2,506	2,542	2,671	2,388	2,829	2,652	3,503	4,009
29	Shahabad	6,371	5,541	6,037	6,457	2,640	2,010	1,311	848	958	828	3,340	3,163	3,520	2,880	3,360	2,001	2,880	2,731	5,861	7,134
30	Mozufferpore	1,223	913	2,355	1,982	1,562	1,027	1,014	526	808	497	2,551	1,612	2,591	1,602	2,559	1,620	2,371	1,956	2,731	2,521
31	Darbhanga	1,333	1,005	3,072	2,741	1,741	1,284	987	511	823	601	2,333	1,746	2,454	1,787	2,300	1,552	2,013	1,639	2,453	2,390
32	Surin	4,823	3,290	3,014	2,807	1,504	1,053	1,095	603	1,074	702	2,112	1,701	2,480	1,877	2,180	1,867	2,225	1,944	3,737	3,677
33	Chumpanin	3,023	2,303	3,205	2,730	1,205	820	694	472	652	528	1,933	1,776	2,085	1,578	1,812	1,310	1,654	1,437	2,409	2,440
Bhagulpore Division.																					
34	Mouhzyr	6,590	5,821	6,512	6,244	3,305	1,721	1,207	858	670	623	2,100	1,852	2,110	1,608	2,406	1,812	2,439	2,367	3,376	4,103
35	Bhagulpore	4,646	4,245	4,839	4,609	2,211	1,577	1,201	810	1,137	930	3,160	2,845	3,181	2,442	2,919	2,009	2,257	2,304	2,351	2,781
36	Purneah	1,566	1,335	2,281	2,047	1,701	1,150	1,437	916	1,309	1,132	3,402	2,760	3,645	2,558	2,619	1,767	1,834	1,582	1,553	1,588
37	Maldah	592	490	1,004	744	601	401	438	227	385	307	734	560	720	600	599	369	417	350	709	705
38	Sonthal Pergunnahs ..	1,506	1,312	2,218	1,925	1,290	977	790	503	551	552	1,220	994	1,077	742	1,035	740	894	700	1,100	1,104
Orissa Division.																					
39	Cuttack	3,003	2,696	3,407	3,468	1,488	1,148	770	581	786	1,010	1,702	1,831	2,059	1,647	1,657	1,223	1,079	1,569	2,398	2,908
40	Puri	2,537	2,333	1,050	1,180	658	679	849	262	432	822	985	1,087	1,148	1,029	1,032	678	848	830	1,393	1,721
41	Balasore	2,081	2,396	1,700	1,713	887	877	830	440	566	620	1,136	1,230	1,424	1,173	1,122	879	1,063	869	1,431	1,899
Chota Nagpore Division.																					
42	Hazaribach	1,998	1,815	1,873	1,847	803	673	483	368	340	298	920	821	1,159	933	1,081	746	1,011	1,010	1,317	1,544
43	Lohardugga	2,700	2,140	2,014	2,384	1,190	928	792	558	620	605	1,420	1,232	1,437	1,214	1,356	1,070	1,201	1,107	1,301	1,257
44	Simbhum	722	638	661	674	353	318	230	136	311	176	498	319	403	310	538	355	485	307	307	457
45	Manbhum	1,153	972	1,218	1,116	780	686	543	331	368	428	850	766	914	561	625	510	702	645	1,004	1,153
	TOTAL FOR THE PROVINCE.	113,535	93,379	111,998	1,03,530	67,987	62,140	42,002	27,559	35,158	35,531	63,164	82,725	99,030	69,386	78,432	56,732	64,995	55,416	95,370	97,517
	RATIO PER 1,000 LIVING.	147.00	119.12	28.30	24.42	13.23	10.86	11.18	9.16	14.16	13.90	16.02	13.99	18.30	14.79	24.20	17.89	34.36	27.32	60.20	45.61

ANNUAL FORM No. V.—Deaths registered according to CLASS in the Districts of the Bengal Province during the year 1886.

1	2	3					4					5							
Number.	Districts.	POPULATION ACCORDING TO CENSUS OF 1881.					NUMBER OF DEATHS REGISTERED.					RATIO OF DEATHS PER 1,000 OF POPULATION.							
		Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.	Christians.	Hindus.	Mahomedans.	Buddhists.	Other classes.	Total.
Burdwan Division.																			
1	Burdwan	910	1,120,676	263,816	...	6,421	1,391,623	6	22,144	4,905	...	71	27,126	6.59	19.75	18.50	...	11.05	19.48
2	Bankura	56	910,845	46,274	...	84,577	1,011,752	8	16,073	695	...	844	17,615	5.77	17.64	15.01	...	9.77	16.90
3	Birbhum	48	617,310	102,621	...	14,440	734,428	...	18,000	3,031	...	223	16,259	21.65	18.65	...	...	13.09	20.46
4	Midnapore	740	2,235,900	164,001	36	117,488	2,615,505	12	47,786	5,091	...	2,225	53,114	10.21	21.39	18.84	...	18.93	21.11
5	Hugli	290	533,033	120,702	2	23	653,036	10	11,046	2,144	...	...	13,994	34.48	20.71	22.69	...	...	21.10
6	Serampore	365	292,174	50,008	288	30	531,955	1	6,139	1,158	...	...	7,298	2.73	21.01	19.50	...	...	20.73
	Total of Hugli, including Serampore ..	655	825,207	184,800	290	53	1,015,005	11	17,179	4,102	...	...	21,292	16.79	20.81	21.72	...	...	20.97
7	Howrah	2,051	500,870	132,118	37	805	635,881	7	9,290	2,570	...	5	11,870	5.41	18.54	19.45	...	9.83	18.08
Presidency Division.																			
8	24 Pargunnahs, exclusive of Suburbs of Calcutta ..	9,928	1,003,110	604,723	230	420	1,618,420	131	10,020	11,182	...	...	30,352	13.19	18.97	18.50	...	...	18.75
	Suburbs of Calcutta ..	4,048	149,930	96,583	127	751	251,439	221	6,472	3,491	3	...	10,187	54.60	43.16	80.14	23.62	...	40.51
	Total of 24 Pargunnahs ..	13,976	1,153,040	701,306	357	1,180	1,869,859	352	25,501	14,683	3	...	40,539	25.18	21.11	20.03	8.40	...	21.08
9	Nuddea	6,423	727,800	921,385	1	13	1,655,721	175	21,058	26,641	...	...	47,854	27.26	28.02	28.01	...	...	28.01
10	Jessore	492	708,322	1,170,505	...	66	1,939,373	6	17,800	27,531	...	...	45,402	10.16	23.25	23.52	...	...	23.41
11	Murshidabad	470	694,796	580,957	1	1,566	1,226,790	9	14,833	12,538	...	...	27,385	19.14	23.36	20.91	1.01	...	23.32
12	Khulna	747	523,637	555,544	...	...	1,079,948	19	10,981	12,879	...	...	24,862	25.43	20.07	23.18	...	...	22.11
Rajshahye Division.																			
13	Dinapore	457	716,630	795,524	...	1,435	1,514,946	3	17,755	21,401	...	37	39,186	6.66	24.77	20.89	...	25.78	25.88
14	Rajshahye	121	288,749	1,040,700	55	13	1,338,634	...	7,635	29,128	...	...	36,163	...	24.39	27.74	...	...	27.01
15	Rangpore	86	810,532	1,279,005	60	1,631	2,097,964	...	25,404	42,178	...	27	67,616	23.25	31.11	32.06	...	16.08	32.22
16	Bogra	27	140,809	603,411	2	58	734,358	...	3,719	15,396	...	...	19,118	...	26.40	25.94	...	...	26.02
17	Patna	114	301,479	940,008	1	236	1,331,728	...	11,295	30,334	...	...	41,620	...	31.24	31.03	...	...	31.73
18	Darjiling	1,800	129,717	8,204	18,775	681	156,137	20	3,493	197	811	20	4,047	14.44	27.66	24.01	10.56	31.20	23.91
19	Jalpaiguri	150	367,801	208,513	486	4,513	581,502	...	12,347	8,001	...	195	20,543	...	33.56	38.37	...	42.76	35.32
Dacca Division.																			
20	Dacca	8,790	856,680	1,250,687	49	135	2,116,550	170	20,353	27,933	...	...	48,515	20.34	23.75	22.37	...	...	22.92
21	Fairfere	2,741	653,902	971,063	13	5	1,631,734	41	12,334	17,019	...	...	29,394	14.95	18.85	17.53	...	...	18.01
22	Backergunge	3,717	624,597	1,207,034	4,797	84	1,900,869	60	15,463	35,220	27	...	50,775	15.06	21.75	27.78	6.62	...	20.71
23	Mymensing	151	987,555	2,038,505	...	22,955	3,051,960	4	19,555	34,997	...	644	55,210	26.48	19.81	17.16	...	24.81	18.04
Chittagong Division.																			
24	Chittagong	1,055	275,177	801,986	54,110	13	1,132,341	10	3,890	11,169	723	...	15,798	15.16	14.18	13.92	13.36	...	13.95
25	Coxsbazir	88	211,476	608,593	114	2	820,772	12	4,231	13,154	...	...	17,397	20.40	20.00	21.01	...	...	21.19
26	Tippurah	199	511,025	1,007,749	374	...	1,619,338	...	10,218	16,943	...	...	27,158	...	19.98	16.81	...	...	17.67
Patna Division.																			
27	Patna	2,589	1,541,001	213,141	...	60	1,756,856	42	37,281	4,621	...	...	41,944	16.22	24.72	21.68	...	...	23.87
28	Gya	96	1,801,944	233,098	...	4	2,124,082	...	44,400	5,000	...	...	54,300	...	25.59	25.31	...	...	25.53
29	Shahabad	276	1,817,881	146,732	...	20	1,964,690	...	60,882	4,100	...	...	64,982	14.40	30.84	27.94	...	...	30.17
30	Muzafferpore	372	2,235,380	310,308	...	...	2,545,688	...	30,550	3,645	...	...	34,195	13.44	13.48	11.52	...	...	13.24
31	Darbhanga	325	2,323,979	308,985	...	158	2,633,447	...	31,343	3,570	...	...	34,913	9.25	13.48	11.55	...	...	13.25
32	Saran	282	2,010,958	269,142	...	...	2,280,382	2	41,203	4,459	...	...	45,704	9.00	20.51	16.49	...	...	20.04
33	Chumparan	1,936	1,476,985	242,637	...	...	1,721,608	58	31,245	4,317	...	...	35,020	29.95	21.15	17.78	...	...	20.68
Bhagalpore Division.																			
34	Monghyr	1,091	1,774,013	187,517	...	7,163	1,968,774	23	52,408	4,487	...	...	56,917	20.16	20.54	23.92	...	...	28.80
35	Bhagalpore	578	1,704,304	185,533	...	15,743	1,905,158	8	48,614	3,626	...	64	52,842	13.84	27.55	19.70	...	4.06	26.02
36	Paranah	327	1,076,539	771,130	...	691	1,848,687	2	22,093	15,403	...	...	37,496	6.21	21.33	19.08	...	...	20.75
37	Madib	26	379,163	320,525	...	1,744	710,440	...	6,562	4,426	...	38	11,021	...	17.30	14.43	...	18.02	15.51
38	Southal Pargunnahs ..	3,067	847,590	108,890	132	608,415	1,608,933	14	13,252	1,840	...	6,302	21,408	4.57	15.39	16.50	...	10.35	10.53
Orissa Division.																			
39	Cuttack	2,842	1,744,227	47,529	3	964	1,795,965	33	34,594	540	...	...	35,176	14.00	19.83	11.55	...	...	19.59
40	Puri	819	873,664	14,003	...	...	888,487	5	20,481	203	...	...	20,687	8.00	23.44	14.49	...	...	23.25
41	Balasore	815	915,792	23,804	4	4,805	945,290	8	24,240	569	...	39	24,655	9.81	25.46	15.60	...	7.81	20.08
Chota Nagpore Division.																			
42	Hazaribagh	552	924,811	106,097	...	73,282	1,104,742	2	15,550	1,802	...	3,472	21,055	3.62	16.93	17.93	...	47.97	19.04
43	Lohardugga	36,281	868,942	77,403	1	626,717	1,600,244	243	13,827	1,692	...	11,370	27,182	6.09	15.91	21.85	...	18.14	16.86
44	Kinnow	2,088	565,046	3,242	...	648	561,064	22	8,027	70	...	19	8,188	7.30	14.46	21.32	...	29.32	14.18
45	Manbhum	552	946,247	46,453	33	65,053	1,053,229	6	14,193	652	...	899	15,750	10.96	14.96	14.54	...	13.65	14.88
	TOTAL FOR THE PROVINCE ..	101,834	42,053,029	21,361,967	79,721	1,067,293	60,163,884	1,415	944,699	481,641	1,064	26,480	1,455,305	13.88	21.09	22.54	13.34	15.88	21.90

OFFICE OF THE SANIT. COMMR. FOR BENGAL,

The 8th March 1887.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	DISTRICTS.					
	<i>Burdwan Division.</i>					
1	Burdwan	1,335,906	1,162	4	26,110	429
2	Bankura	989,106	461	31	12,050	381
3	Birbhum	766,580	583	7	17,537	101
4	Midnapore	2,449,261	4,535	17	36,077	3,528
5	Hughli	613,825	489	4	9,404	1,001
6	Serampore	305,231	453	1	3,593	711
	Total of Hughli, including Serampore ...	919,056	942	5	12,997	1,802
7	Howrah	529,763	817	3	4,875	1,818
	<i>Presidency Division.</i>					
8	24 Pergunnahs	1,424,329	4,156	2	18,775	925
9	Nuddea	1,560,321	6,742	10	34,366	381
10	Jessore	1,960,880	7,866	4	34,850	127
11	Murshidabad	1,143,106	1,420	18	20,425	113
12	Khulna	1,005,032	1,671	2	18,747	256
	<i>Rajshahye Division.</i>					
13	Dinajpur	1,501,780	24	59	30,048	294
14	Rajshahye	1,318,847	967	16	32,763	74
15	Rungpore	2,081,644	6,115	14	56,538	356
16	Rogra	728,179	166	.....	16,230	83
17	Pubna	1,275,424	3,089	1	33,217	276
18	Darjiling	148,161	228	24	2,463	679
19	Jalpaiguri	573,615	1,827	4	17,950	119
	<i>Dacca Division.</i>					
20	Dacca	2,023,628	6,105	41	29,527	3,519
21	Faridpore	1,621,471	7,217	17	19,021	603
22	Backergunge	1,987,703	2,987	145	31,767	685
23	Mymensing	3,004,853	6,066	97	37,265	2,104
	<i>Chittagong Division.</i>					
24	Chittagong	1,110,211	10	1	12,380	303
25	Noakhali	815,648	314	6	13,769	275
26	Tipperah	1,488,289	2,970	11	18,026	710
	<i>Patna Division.</i>					
27	Patna	1,471,813	2,040	53	23,327	2,380
28	Gya	2,038,691	4,000	220	38,808	818
29	Shahabad	1,885,041	5,942	196	56,681	612
30	Mozufferpore	2,400,715	1,752	159	22,539	1,376
31	Darbhanga	2,567,351	1,813	168	26,043	2,103
32	Sarun	2,201,333	1,813	110	18,431	2,966
33	Champaran	1,700,345	951	1,267	25,236	290
	<i>Bhagulpore Division.</i>					
34	Monshyr	1,886,174	646	203	46,073	493
35	Bhagulpore	1,908,705	807	23	40,711	1,203
36	Purneah	1,833,671	2,475	32	31,071	161
37	Maldah	698,018	133	2	10,115	27
38	Southern Pergunnahs	1,560,088	200	79	17,736	835
	<i>Orissa Division.</i>					
39	Cuttack	1,724,896	6,944	292	15,240	3,290
40	Puri	803,703	3,190	91	3,061	2,120
41	Balasore	925,015	4,070	376	10,028	4,287
	<i>Chota Nagpore Division.</i>					
42	Hazaribagh	1,080,436	89	11	17,978	590
43	Lohardugga	1,590,801	1,084	79	19,610	1,091
44	Singbhum	555,958	13	1	5,675	596
45	Manbhum	1,048,924	145	3	11,906	707
	TOTAL FOR DISTRICTS ...	63,754,306	106,433	8,845	1,027,681	46,587
	TOWNS.					
	<i>Burdwan District.</i>					
1	Burdwan	34,080	22	3	571	110
2	Kaina	10,501	32	.....	196	32
3	Ranigunge	10,937	13	.....	135	55
	<i>Bankura District.</i>					
4	Bankura	18,747	16	.....	185	31
5	Bishenpur	21,283	11	.....	205	27
6	Sonamukhi	12,616	.....	.....	115	10
	<i>Birbhum District.</i>					
7	Soori	7,848	4	.....	88	.....
	<i>Midnapore District.</i>					
8	Midnapore	33,560	51	3	230	123
9	Ghatal	12,638	25	.....	81	22
10	Chondrakona	12,257	8	.....	119	47
11	Kamjibaupore	10,909	13	.....	96	16
	<i>Hughli District.</i>					
12	Hughli	39,718	199	.....	527	262
13	Jehanabad	10,507	5	.....	99	4
14	Serampore	26,496	262	2	336	217
15	Budynabatti	14,718	35	.....	108	34
16	Uttarpara	5,510	20	.....	26	28

Districts and Principal Towns of the Bengal Province during the year 1886.

8					9	10	11										12
INJURY.					All other Causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other Causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
28	26	120	171	345	3,615	25,665	86	002	1505	32	25	270	19'21	29'05	1		
12	17	63	174	296	2,928	16,715	46	03	1278	38	26	295	16'89	22'47	2		
3	9	106	103	221	3,607	16,121	74	008	1400	12	27	465	20'40	28'28	3		
10	18	516	631	1079	6,712	51,648	185	000	1474	44	40	274	21'10	30'72	4		
13	26	109	146	257	1,390	13,075	70	006	1532	77	48	228	20'64	21'75	5		
11	7	32	57	107	830	5,765	148	003	1177	232	35	304	18'98	17'40	6		
34	33	141	206	404	2,320	18,470	102	005	1414	106	43	252	20'09	20'33			
24	24	171	155	374	1,616	9,503	154	005	020	343	70	305	17'03	17'20	7		
39	58	340	351	797	2,006	26,661	201	001	1318	64	55	140	18'71	20'40	8		
67	91	235	602	895	5,797	40,261	432	000	2200	24	03	243	20'04	42'73	9		
63	107	291	425	880	1,480	45,213	407	002	1804	06	45	70	23'41	25'55	10		
32	43	131	435	641	1,004	24,221	124	001	1786	09	50	140	21'18	27'16	11		
25	46	182	185	438	2,448	23,662	166	001	1700	24	41	229	22'12	23'45	12		
12	0	281	293	595	1,271	38,891	41	003	2400	19	58	64	25'80	18'00	13		
21	66	206	408	761	819	35,430	75	001	2484	05	57	62	26'86	31'64	14		
6	7	301	274	588	3,504	67,115	203	000	2712	17	28	168	32'19	18'05	15		
8	22	162	202	394	1,373	18,090	133	...	2228	04	54	188	26'08	23'77	16		
24	67	181	318	580	998	40,101	242	0007	2761	21	45	78	31'48	24'51	17		
8	9	22	4	43	421	3,888	153	006	1682	458	29	284	26'24	10'79	18		
8	5	60	46	110	651	20,379	231	000	3130	20	20	148	35'52	18'01	19		
49	94	281	283	707	6,432	40,331	301	005	1459	173	54	317	22'80	19'04	20		
24	75	186	276	661	1,038	29,057	445	001	1173	37	54	101	17'02	14'00	21		
29	50	843	219	1,141	13,768	50,444	158	007	1082	36	60	729	26'74	24'57	22		
44	59	260	311	680	6,954	54,006	231	003	1241	70	22	231	17'00	10'03	23		
1	10	605	71	687	1,877	15,328	000	0009	1113	35	01	169	13'80	17'00	24		
9	3	439	66	547	2,397	17,340	40	009	1888	33	67	293	21'25	19'05	25		
11	14	471	66	562	3,843	20,150	200	007	1211	47	37	258	17'50	14'44	26		
19	76	541	215	851	5,768	34,418	138	003	1584	161	57	501	23'38	20'45	27		
21	99	809	283	1,212	4,928	49,890	106	010	1903	40	59	241	24'32	21'37	28		
22	81	441	147	691	5,785	69,847	315	007	3005	32	36	300	37'08	18'55	29		
6	24	813	666	1,408	4,689	31,023	70	006	904	55	56	188	12'81	15'67	30		
2	6	628	567	1,203	1,907	33,207	70	006	1014	81	46	78	12'06	13'04	31		
19	45	643	330	1,037	19,098	44,005	82	004	830	134	47	804	20'03	18'06	32		
5	35	538	423	1,001	6,212	34,957	55	005	1484	17	58	365	20'55	16'37	33		
14	29	581	535	1,139	6,036	54,590	54	010	2442	26	60	320	28'94	17'05	34		
3	7	381	365	756	0,730	50,202	42	001	2132	66	59	352	20'34	20'31	35		
6	17	190	200	422	720	37,867	134	001	1858	08	23	50	30'60	19'09	36		
2	7	13	199	221	417	10,915	19	002	1449	03	51	59	15'64	20'00	37		
16	16	204	180	416	1,922	21,194	13	005	1135	53	20	123	13'58	13'50	38		
53	111	406	280	880	7,200	33,816	402	016	883	190	49	417	19'00	20'47	39		
37	51	223	100	411	10,330	19,203	349	010	854	245	47	1196	22'23	20'08	40		
26	48	201	164	429	4,866	24,036	437	040	1084	403	40	520	20'00	24'16	41		
11	40	332	154	537	1,635	20,549	08	001	1651	54	49	150	19'13	18'37	42		
38	30	137	302	439	3,864	20,757	08	004	1232	106	27	242	16'81	16'78	43		
4	3	123	156	286	2,543	15,590	03	001	1020	107	45	264	14'40	14'82	44		
889	1,675	13,742	11,500	27,872	175,114	1,380,532	170	008	1611	73	43	274	21'79	19'08	45		
...	...	8	2	10	168	884	64	008	1075	322	29	492	25'03	44'42	1		
...	...	5	2	9	52	321	203	...	1708	293	82	477	20'44	28'43	2		
...	...	8	2	6	43	250	118	...	1234	502	45	438	23'40	29'26	3		
...	...	4	1	5	90	350	85	...	988	181	28	480	17'60	20'02	4		
...	...	8	3	13	118	373	51	...	963	186	50	554	17'62	30'87	5		
...	...	1	2	3	68	197	...	...	935	79	23	523	15'01	32'80	6
...	...	1	3	33	135	135	50	...	1221	101	25	420	17'20	36'82	7		
...	...	4	3	8	308	723	151	008	695	806	23	917	21'54	30'85	8		
...	...	1	2	2	19	149	197	...	640	174	15	150	11'78	20'40	9		
...	...	1	3	4	68	247	85	...	970	582	82	554	20'07	24'08	10		
...	...	1	3	23	149	149	119	...	880	145	...	210	13'56	25'57	11		
2	4	12	8	26	180	1,194	513	...	1301	676	07	464	30'83	20'72	12		
...	...	2	1	2	15	125	47	...	942	38	19	142	11'80	20'84	13		
...	...	15	1	30	387	1,164	762	007	1204	818	75	1400	48'93	36'40	14		
...	...	4	1	6	47	230	247	...	733	231	40	319	15'62	20'03	15		
1	...	2	3	32	82	169	302	...	471	508	54	580	19'78	27'40	16		

ANNUAL FORM NO. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1891.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	TOWNS—continued.					
	Howrah District.					
17	Howrah	90,815	528	.....	674	343
18	Bali	14,815	59	.....	148	67
	24-Pergunnahs.					
19	Suburbs of Calcutta...	251,459	1,845	7	3,590	1,682
20	South Suburban	51,058	122	1	292	92
21	Burmanagore	29,082	228	1	349	144
22	Kaipore	10,576	4	.....	52	6
23	Aukurpara	22,730	76	.....	325	66
24	Nawabgunge	18,018	147	1	225	66
25	Nabhatta	21,633	110	.....	308	64
26	Basurhat	20,160	42	.....	119	19
27	Baduria	19,135	61	1	118	21
	Nuddea District.					
28	Kishnaghur	27,477	87	.....	313	21
29	Rasonghat	8,083	32	1	45	1
30	Santipore	29,087	69	.....	176	6
31	Kushlia	9,717	11	.....	136	20
32	Meherpore	6,781	29	.....	76	16
33	Nobodip	14,106	95	.....	131	18
	Jessore District.					
34	Jessore	8,495	25	.....	134	8
	Murshidabad District.					
35	Berhampore	23,005	153	.....	498	75
36	Katul	10,061	78	.....	141	21
37	City Murshidabad	39,231	123	.....	1,300	93
38	Jungipore	10,187	24	.....	129	80
	Khulna District.					
39	Satkhiria	8,738	7	2	113	1
40	Khulna	6,178	49	.....	111	3
	Dinajpur District.					
41	Dinajpur	12,560	9	.....	183	40
	Rajshahye District.					
42	Beaulah	19,791	52	4	524	75
	Rungpore District.					
43	Rungpore... ..	13,320	12	.....	372	38
	Bogra District.					
44	Bogra	6,179	3	.....	81	19
	Pabna District.					
45	Pabna	15,267	105	1	301	30
46	Serajungge	21,037	41	.....	798	33
	Darjiling District.					
47	Darjiling... ..	7,976	3	.....	61	43
	Jalpaiguri District.					
48	Jalpaiguri	7,947	3	.....	81	28
	Dacca District.					
49	Dacca	80,161	156	8	544	295
	Naraingunge	12,561	121	1	74	63
	Faridpore District.					
51	Faridpore	10,263	178	.....	115	20
	Backergunge District.					
52	Barisal	13,186	40	.....	165	11
	Mymensing District.					
53	Jamulpore	16,091	21	.....	263	53
54	Kishoregunge	12,898	124	.....	109	5
55	Tangail	28,124	60	1	320	22
	Chittagong District.					
56	Chittagong	22,30	3	.....	301	67
	Nakhal District.					
57	Sodharam	5,121	8	.....	15	3
	Tipperah District.					
58	Comillah	13,506	85	.....	211	35
59	Grahambariah	17,543	205	.....	226	59

Districts and Principal Towns of the Bengal Province during the year 1886—continued.

8					9	10	11										12
INJURY.					All other Causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All other Causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
3	3	35	3	44	467	2,056	5'81	...	7'42	3'77	48	5'14	22'03	28'81	17		
...	...	.....	3	3	44	311	3'19	...	9'08	3'54	20	2'00	20'09	22'40	18
4	10	85	10	109	2,054	10,187	7'33	0'02	14'27	6'68	43	11'74	40'51	45'40	19		
2	3	12	6	23	88	608	2'36	0'01	5'45	1'78	44	1'70	11'70	18'62	20		
1	2	5	3	11	150	883	7'60	0'03	11'64	4'80	86	5'00	29'45	26'18	21		
...	1	8	6	15	62	129	37	...	4'91	5'68	1'41	4'91	12'19	18'72	22		
...	...	8	2	10	49	528	3'34	...	14'29	2'00	43	2'15	23'13	24'20	23		
...	1	7	4	12	111	640	8'15	0'05	12'37	3'66	06	6'16	31'08	22'69	24		
...	...	4	7	11	62	545	5'10	...	14'30	2'60	51	2'87	25'30	31'62	25		
...	1	.....	.....	1	49	220	2'06	...	5'81	44	04	2'39	10'75	28'65	26
...	3	13	1	17	2	220	3'18	0'05	6'16	1'09	88	1'10	11'49	17'45	27		
3	1	7	4	15	148	584	3'16	...	11'30	76	54	5'38	21'25	40'39	28		
...	...	1	.....	1	7	85	3'08	0'11	4'05	11	11	1'80	9'78	28'79	29	
1	2	.....	5	8	46	305	2'32	...	5'02	20	26	1'54	16'27	27'04	30	
...	...	3	2	8	11	186	1'13	...	13'09	2'05	82	1'13	10'14	18'00	31		
...	...	.....	.....	.....	15	136	5'06	...	14'26	2'19	...	2'01	23'73	31'37	32
...	...	.....	.....	.....	72	317	0'80	...	9'28	1'27	.....	5'10	22'47	26'30	33
...	1	3	.....	4	18	189	2'94	...	15'77	04	47	2'11	22'24	33'10	34	
3	...	11	7	21	113	860	6'48	...	21'09	3'17	88	4'78	36'43	25'71	35		
...	...	1	3	4	10	194	1'68	...	13'22	1'90	97	1'89	18'19	27'10	36		
1	...	16	12	27	274	1,817	3'13	...	53'13	2'37	68	6'08	46'31	36'00	37		
...	...	6	1	7	61	291	2'35	...	12'66	7'85	68	5'00	28'66	30'23	38		
...	...	3	2	5	4	132	80	2'22	12'03	11	57	4'45	15'10	23'68	39		
...	...	1	.....	1	24	188	7'03	...	17'00	48	16	3'88	30'43	Data not available.	40	
...	...	4	1	5	59	305	7'71	...	14'57	3'00	39	4'60	24'28	19'18	41		
1	1	16	6	22	56	733	2'62	2'20	26'47	3'78	1'11	2'82	37'03	31'22	42		
2	...	4	1	7	71	500	0'00	...	27'02	2'85	52	5'53	37'53	20'72	43		
...	...	.....	.....	.....	16	119	48	...	13'10	3'07	.....	2'58	19'25	33'33	44
...	...	4	1	5	75	517	0'87	0'06	19'72	1'86	32	4'91	33'80	27'70	45		
...	...	9	3	12	67	951	1'94	...	37'03	1'66	57	3'18	45'20	25'71	46		
...	...	2	1	3	44	150	37	...	7'64	0'01	37	5'51	19'03	17'30	47		
...	...	5	.....	5	45	162	37	...	10'19	3'52	62	5'60	20'38	13'96	48	
2	1	15	.....	18	777	1,788	1'94	0'00	6'78	3'55	05	9'09	22'30	28'06	49	
...	1	4	.....	5	130	390	9'63	0'07	5'89	5'17	38	10'34	31'62	22'92	50	
...	1	.....	2	3	21	337	17'34	...	11'20	1'94	29	2'04	32'83	28'45	51	
1	1	6	.....	8	63	287	3'03	...	12'51	83	00	4'77	21'76	20'40	52	
1	...	.....	1	2	67	436	1'30	...	16'34	5'15	12	3'16	27'09	26'84	53
1	1	3	3	8	29	208	9'01	0'05	7'45	3'89	.....	2'32	20'77	35'04	54	
...	...	...	...	...	...	440	3'51	...	17'63	1'21	44	1'60	24'27	17'71	55
2	...	12	.....	14	85	470	1'13	...	13'60	3'02	67	3'84	21'23	24'40	56	
2	...	.....	1	3	25	57	1'56	...	3'51	58	58	4'87	11'12	15'01	57
...	1	7	.....	8	52	391	0'29	...	15'62	2'59	50	3'85	28'05	20'63	58	
...	...	6	.....	6	145	631	11'08	...	12'88	2'83	28	8'26	35'96	23'88	59	

ANNUAL FORM NO. VI.—Deaths registered from DIFFERENT CAUSES in the

1	2	3	4	5	6	7
Number.	DISTRICTS AND TOWNS.	Population according to Census of 1881.	Cholera.	Small-pox.	Fever.	Bowel-complaints.
	TOWNS—concluded.					
	Patna District.					
60	Patna	100,237	924	3	2,044	902
61	Bohar	48,071	24	12	295	94
62	Dinapore	52,225	177	.....	454	141
63	Barrh	23,010	36	1	263	151
	Gya District.					
64	Gya	70,121	716	2	1,437	419
65	Daudnagar	9,870	7	21	291	4
	Shahabad District.					
66	Arrah	43,465	18	1	115	12
67	Dumraon	17,835	67	26	307	66
68	Buxar	17,668	113	3	276	48
	Muzafferpoore District.					
69	Muzafferpoore	42,742	224	17	511	170
70	Sitamarhi	4,125	3	7	105	21
71	Hajeeapore	25,496	123	6	162	151
72	Laigunge	16,783	16	...	230	64
	Durbhanga District.					
73	Durbhanga	66,006	37	11	737	326
	Saran District.					
74	Chupra	53,249	93	3	282	168
75	Sewan	18,307	47	2	164	70
76	Revilkaungo	12,493	72	4	139	50
	Chumparan District.					
77	Bettiah	21,263	1	15	481	20
	Monghyr District.					
78	Monghyr	57,520	83	10	788	253
79	Jamulpore	13,463	20	.....	103	70
80	Shankpura	12,517	.....	.....	350	3
	Bhagulpore District.					
81	Bhagulpore	57,453	263	.....	736	247
	Purneah District.					
82	Purneah	15,016	11	4	340	55
	Maldah District.					
83	English Bazar	12,430	1	.....	91	1
	Sonthal Pergunnahs District.					
84	Deoghur	8,005	46	4	99	14
	Cuttack District.					
85	Cuttack	43,239	50	2	166	49
86	Kendrapara	15,697	104	6	139	50
87	Jajpur	11,233	42	.....	87	40
	Puri District.					
88	Puri	24,784	623	1	234	242
	Balasore District.					
89	Balasore	20,205	152	6	171	145
	Hazaribagh District.					
90	Hazaribagh	15,306	6	.....	91	35
	Lohardugga District.					
91	Ranchi	18,443	1	.....	263	47
	Singbhum District.					
92	Chyebassa	6,006	.....	.....	86	25
	Manbhum District.					
93	Purnia	9,304	2	.....	103	24
	Total for Towns ...	2,409,578	9,935	204	29,615	9,106
	TOTAL FOR THE PROVINCE ...	66,163,884	118,368	4,040	1,057,296	55,003

Districts and Principal Towns of the Bengal Province during the year 1886—concluded.

8					9	10	11										12
INJURY.					All other Causes.	TOTAL DEATHS FROM ALL CAUSES.	RATIO OF DEATHS PER 1,000 OF POPULATION.										Number.
SUICIDE.		Wounds or Accidents.	Snake-bite or killed by Wild Beasts.	Total.			Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injury.	All others Causes.	FROM ALL CAUSES.				
Male.	Female.												For the year.	Mean of previous five years.			
...	3	68	12	83	1,388	5,344	5'76	'01	12'75	5'02	'51	8'60	33'35	29'86	60		
...	1	17	2	20	180	640	'57	'24	6'02	1'91	'40	3'67	12'84	27'95	61		
...	...	12	3	15	136	923	3'38	...	8'89	2'09	'28	2'60	17'67	11'18	62		
...	...	22	4	26	150	620	1'52	'04	11'26	6'30	1'10	6'35	20'68	24'48	63		
...		
...	1	66	2	68	1,278	3,021	9'41	'02	18'87	5'50	'00	16'78	51'51	48'97	64		
...	...	6	1	7	50	880	'70	2'12	20'48	'40	'79	5'97	39'41	20'50	65		
...		
...	2	14	...	14	42	202	'41	'03	2'04	'27	'52	'06	4'64	22'75	66		
...	...	8	2	12	39	517	3'75	1'45	17'21	3'70	'87	2'18	28'98	21'25	67		
...	...	10	...	12	68	520	6'30	'16	15'62	2'71	'67	3'84	20'43	20'37	68		
...		
...	...	21	8	29	201	1,152	5'24	'30	11'05	3'97	'67	4'70	26'95	24'56	69		
...	...	4	2	6	22	164	'48	1'14	17'14	3'42	'97	3'19	26'77	32'00	70		
...	...	18	7	25	94	561	4'78	'23	6'30	5'87	'97	3'65	21'83	17'98	71		
...	1	9	4	14	63	400	'95	...	14'24	4'05	'83	3'75	23'53	21'33	72		
...		
...	...	19	3	22	486	1,010	'55	'16	11'15	4'93	'33	7'35	24'49	26'15	73		
...		
...	...	25	...	27	196	768	1'72	'05	5'20	3'15	'50	8'68	14'42	24'53	74		
...	...	9	...	11	100	492	3'53	'15	12'24	5'03	'82	14'27	36'97	22'99	75		
...	3	5	1	9	66	349	5'76	'32	11'12	4'72	'72	5'28	27'93	34'65	76		
...		
...	...	7	4	11	135	663	'04	'70	22'62	'04	'51	6'34	31'18	24'83	77		
...		
...	...	29	8	37	314	1,485	1'44	'17	19'69	4'39	'64	5'45	25'81	26'86	78		
...	...	9	2	11	137	431	1'47	...	14'22	5'16	'81	10'10	31'77	40'03	79		
...	...	8	6	14	35	411	...	...	28'68	'23	1'11	2'79	32'83	30'19	80
...	1	30	2	34	770	2,050	4'57	...	13'81	4'29	'59	13'40	35'08	41'50	81		
...		
...	...	9	2	11	51	481	'73	'26	23'24	3'08	'73	3'39	32'03	38'22	82		
...		
...	...	2	1	3	10	106	'08	...	7'32	'08	'24	'80	8'52	25'10	83		
...		
...	...	1	...	1	50	214	5'74	'40	12'36	1'74	'12	6'24	26'73	23'36	84		
...		
...	2	10	...	12	395	674	1'15	'04	3'83	1'13	'27	9'13	15'58	10'05	85		
...	1	2	3	6	160	465	6'02	'38	8'85	3'18	'38	10'10	29'62	28'22	86		
...	1	2	3	7	36	221	3'73	...	7'74	4'36	'62	3'20	19'67	23'85	87		
...		
...	2	5	4	13	371	1,484	25'13	'04	9'44	9'76	'52	14'06	59'87	58'62	88		
...		
...	1	9	...	11	114	599	7'50	'29	8'43	7'15	'54	5'62	29'55	30'09	89		
...		
...	...	2	...	2	52	186	'30	...	5'94	2'28	'13	3'39	12'15	24'82	90		
...		
...	1	8	1	10	54	375	'05	...	14'26	2'54	'54	2'92	20'33	17'61	91		
...		
...	1	5	2	8	9	128	...	...	14'31	4'10	1'33	1'49	21'31	25'97	92
...		
...	2	7	...	10	21	160	'21	...	11'07	2'57	1'07	2'25	17'19	26'54	93		
...		
...	57	65	868	219	1,299	15,704	4'12	'08	12'29	3'77	'50	6'51	37'29	29'41	...		
...		
...	946	1,740	14,010	11,785	29,081	190,818	1,455,305	1'78	'08	15'97	'84	'43	2'88	21'99	20'35	...	

R. LIDDERDALE, M. D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM NO. VII.—Deaths registered from CHOLERA in the

1	2	3		4		5					
		CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.	June.
		Number in each District.	Number from which deaths from Cholera were reported.	Number in each District.	Number from which deaths from Cholera were reported.						
	DISTRICTS.										
	Burdwan Division.										
1	Burdwan	20	20	3,067	194	23	13	138	196	37	4
2	Bankura	13	12	5,017	107	22	24	49	84	.....	.....
3	Birbhum	8	8	3,199	129	4	.....	3	2	16	10
4	Midnapore	29	29	14,758	1,214	696	796	444	230	120	87
5	Hughli	10	10	1,781	157	69	62	33	73	3	.....
6	Serampore	8	8	923	110	36	9	30	36	5	4
	Total of Hughli, including Serampore ...	18	18	2,655	267	105	71	63	100	8	4
7	Howrah	8	8	1,496	283	72	86	121	73	23	14
	Presidency Division.										
8	24-Pergunnahs, exclusive of Suburbs of Calcutta	31	31	.....	.....	734	508	261	388	120	9
	Suburbs of Calcutta	1	1	.....	.....	133	92	97	132	75	61
	Total of 24-Pergunnahs ...	32	32	5,458	1,094	867	600	358	520	195	70
9	Nuddon	31	31	3,072	1,048	262	203	513	1,507	951	64
10	Jessore	22	22	4,732	1,220	1,060	1,085	1,137	2,335	768	43
11	Murshidabad	27	27	3,607	577	16	14	97	271	208	36
12	Khulna	15	15	2,390	441	413	108	225	170	92	13
	Rajshahye Division.										
13	Dinajpur	17	15	6,921	118	111	21	10	70	20	32
14	Rajshahye	14	14	5,159	309	54	46	12	352	322	71
15	Rangpore	17	17	6,737	604	56	14	24	250	410	247
16	Bogra	10	10	4,229	189	41	6	8	118	114	13
17	Patna	10	10	8,354	618	77	8	232	2,118	516	4
18	Darjiling	5	4	943	.....	.....	.....	1	4	30	45
19	Jalpaiguri	9	9	1,110	143	.....	3	.....	.....	3	1
	Dacca Division.										
20	Dacca	14	14	5,770	1,719	627	98	230	912	317	42
21	Faridpore	14	14	3,302	987	257	140	687	3,575	1,065	154
22	Backergunge	17	17	4,336	1,074	202	169	572	878	449	101
23	Mymensing	18	18	14,676	1,326	1,024	731	500	1,279	1,226	407
	Chittagong Division.										
24	Chittagong	14	4	1,363	4	2	1	.....	4	.....	5
25	Nonkhali	10	9	2,628	157	71	21	21	59	44	4
26	Tipperah	13	13	6,170	796	628	177	847	950	210	16
	Patna Division.										
27	Patna	17	17	5,619	344	1	2	4	16	22	350
28	Gya	14	14	6,531	625	3	1	19	54	29	29
29	Shahabad	14	14	6,439	350	1	1	.....	14	6	42
30	Muzafferpore	13	13	4,379	293	.....	3	2	3	15	28
31	Darbhanga	11	11	6,359	324	16	1	1	2	76	354
32	Saran	13	13	4,578	291	.....	1	.....	3	5	45
33	Chumpran	10	10	7,706	68	.....	.....	.....	.....	.....	7
	Bhagulpore Division.										
34	Monchyr	14	13	3,975	168	3	.....	5	1	6	9
35	Bhagulpore	13	13	3,382	157	8	1	6	13	22	98
36	Purneah	14	14	3,625	477	17	.....	33	367	307	115
37	Maldah	10	10	3,100	60	20	3	5	9	9	4
38	Sonthal Pergunnahs	6	6	11,254	61	.....	.....	6	22	10	13
	Orissa Division.										
39	Cuttack	13	13	8,012	1,702	688	702	1,005	762	730	546
40	Puri	6	6	5,146	361	280	275	257	234	98	51
41	Balasore	10	10	6,303	1,113	360	603	620	467	443	120
	Chota Nagpore Division.										
42	Hazaribagh	17	13	7,704	23	.....	2	1	6	7	4
43	Lohardugga	22	7	8,013	140	.....	.....	.....	.....	1	205
44	Singbhum	6	2	3,123	2	4	.....	.....	5	1	.....
45	Manbhum	17	13	6,140	40	.....	2	6	9	8	3
	TOTAL FOR THE PROVINCE ...	645	602	231,977	21,507	9,800	6,172	8,755	18,066	9,716	3,585

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 8th March 1887.

Districts of the Bengal Province during each month of the year 1886.

5						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 during previous years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
4	8	6	42	237	521	635	524	1,229	.75	.82	.88	2.39	1
23	69	11	71	74	109	237	251	468	.46	.46	.46	1.18	2
26	19	8	2	65	397	311	281	592	.81	.68	.74	2.55	3
129	99	41	304	985	1,002	2,385	2,217	4,632	1.01	1.70	1.84	1.80	4
7	13	7	72	167	197	387	300	693	1.22	.88	1.04	1.21	5
7	9	7	83	207	277	413	297	710	2.30	1.07	2.01	1.89	6
14	22	14	155	364	474	800	603	1,403	1.03	1.14	1.38	1.45	
25	37	66	132	235	520	839	572	1,404	2.02	1.79	2.20	2.48	7
23	17	19	111	539	2,217	2,726	2,220	4,946	3.29	2.80	3.05	2.42	8
105	53	75	290	394	332	1,124	721	1,845	7.03	6.01	7.33	8.08	
128	70	94	407	933	2,549	3,850	2,941	6,791	3.94	3.28	3.63	3.26	
11	6	5	22	731	2,611	3,024	3,442	7,066	4.49	4.04	4.26	5.02	9
3			2	66	794	4,242	3,649	7,891	4.42	3.72	4.06	3.15	10
91	30	18	44	549	669	940	798	1,738	1.60	1.24	1.41	2.52	11
18	3	3	6	65	542	651	776	1,727	1.07	1.51	1.59	2.33	12
.....	.....	.....	95	104	155	376	257	633	.48	.35	.41	.64	13
24	5	.....	1	15	147	573	476	1,049	.86	.70	.78	3.37	14
1.5	136	265	407	1,503	2,570	3,194	2,933	6,127	2.99	2.84	2.92	.90	15
52	62	1	132	278	149	561	468	969	1.34	1.29	1.31	1.70	16
3	.....	.....	1	38	208	1,758	1,477	3,235	2.71	2.22	2.46	2.24	17
70	76	.....	.....	3	2	146	85	231	1.63	1.27	1.47	.55	18
48	58	36	396	657	188	722	608	1,330	2.36	2.20	2.28	1.02	19
23	19	37	41	376	3,630	3,228	3,154	6,382	3.12	2.91	3.01	2.18	20
23	.....	6	5	29	854	4,056	3,339	7,395	5.03	4.04	4.53	2.63	21
59	21	17	13	12	540	1,676	1,353	3,027	1.71	1.45	1.59	2.80	22
124	28	21	26	249	554	3,325	3,340	7,171	2.46	2.23	2.34	1.46	23
.....	1	.....	.....	.....	.....	10	3	13	.01	.004	.01	1.08	24
.....	10	2	19	4	.....	191	161	352	.45	.39	.42	.74	25
.....	3	3	.....	15	420	1,690	1,579	3,269	2.10	2.10	2.15	1.52	26
466	770	355	394	639	176	1,737	1,468	3,205	2.02	1.63	1.83	1.04	27
278	923	1,068	1,003	1,443	119	2,402	2,267	4,729	2.35	2.09	2.22	1.90	28
245	903	748	2,049	1,907	234	3,170	2,964	6,140	3.34	2.92	3.13	1.93	29
111	163	116	276	833	514	1,232	881	2,118	.97	.67	.82	2.60	30
147	62	92	188	489	422	989	861	1,850	.76	.64	.70	1.67	31
210	829	401	332	492	206	1,124	900	2,024	1.03	.75	.88	1.08	32
23	228	272	141	213	69	519	453	952	.69	.50	.55	1.97	33
16	27	30	272	317	63	389	360	749	.40	.35	.38	1.50	34
58	39	41	197	366	221	542	528	1,070	.55	.53	.54	1.76	35
63	1	25	167	772	530	1,323	1,163	2,486	1.41	1.27	1.34	1.46	36
1	.....	.....	.....	.....	75	73	61	134	.21	.16	.18	2.81	37
6	12	36	72	35	40	146	100	252	.18	.13	.16	1.32	38
476	278	143	322	587	633	3,550	3,500	7,140	4.04	3.91	3.97	3.74	39
702	353	82	149	676	658	2,024	1,789	3,813	4.53	4.04	4.29	3.40	40
234	62	22	77	323	571	2,169	2,053	4,222	4.70	4.24	4.46	4.77	41
3	8	8	44	19	1	55	40	95	.10	.07	.08	1.08	42
431	229	92	.....	27	10	606	479	1,085	.76	.53	.67	.20	43
.....	.....	.....	3	.....	.....	4	9	13	.01	.03	.02	.25	44
.....	22	7	41	44	5	84	63	147	.15	.11	.13	1.03	45
4,542	5,234	4,186	8,064	16,090	24,178	62,955	55,413	118,368	1.01	1.06	1.78	1.99	

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

ANNUAL FORM No. VIII.—Deaths registered from SMALL-POX in the

1	2	3	4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths from Small-pox were reported.	Number in each District.	Number from which deaths from Small-pox were reported.					
	Burdwan Division.									
1	Burdwan	20	5	3,667	5	.....	.....	1	1	4
2	Bankura	13	4	5,617	11	4	3	1	11	6
3	Birbhum	8	1	3,190	10	.....	1	1	1	1
4	Midnapore	29	7	14,754	49	2	4	4	3	.....
5	Hughli	10	2	1,731	4	.....	.....	.....	.....	1
6	Serampore	8	2	924	2	.....	2	.....	.....	.....
	Total of Hughli, including Serampore ...	18	4	2,655	6	.....	2	.....	.....	1
7	Howrah	8	2	1,496	6	.....	1	.....	.....	.....
	Presidency Division.									
8	24-Pergunnahs, exclusive of Suburbs of Calcutta ...	31	6	.....	.....	1	.....	1	2	1
	Suburbs of Calcutta	1	1	.....	.....	1	1	2	1	.....
	Total of 24-Pergunnahs ...	32	7	5,458	9	2	1	3	3	1
9	Nuddea	31	7	3,072	16	1	1	2	2	1
10	Jessore	22	4	4,732	3	1	1	1	.....	1
11	Murshidabad	27	4	5,697	17	.....	.....	2	3	5
12	Khulna	15	3	2,890	2	.....	.....	.....	.....	.....
	Rajahmhye Division.									
13	Dinajpur	17	7	6,921	24	.....	6	6	15	12
14	Rajahmhye	14	5	5,159	15	.....	4	.....	2	4
15	Rangpore	17	6	6,737	7	.....	1	.....	4	1
16	Bogra	10	.....	4,229	3	.....	.....	.....	.....	.....
17	Pubna	10	2	3,954	3	.....	.....	.....	.....	1
18	Darjiling	5	3	943	11	.....	.....	4	10	1
19	Jalpaiguri	9	3	1,110	3	2	.....	.....	.....	.....
	Dacca Division.									
20	Dacca	14	8	5,770	22	8	3	4	8	9
21	Faridpore	14	7	3,892	8	1	.....	2	5	.....
22	Bactergunge	17	12	4,336	84	16	10	27	18	8
23	Mymensing	18	10	1,4676	69	17	16	20	17	7
	Chittagong Division.									
24	Chittagong	14	1	1,363	3	.....	.....	.....	1	.....
25	Noakhali	10	5	2,628	7	.....	1	5	1	.....
26	Tipperah	13	3	6,479	8	1	1	2	.....	4
	Patna Division.									
27	Patna	17	13	5,610	51	9	7	12	7	2
28	Gya	14	14	6,531	145	15	12	28	37	47
29	Shahabad	14	13	5,420	109	21	12	33	27	20
30	Mozufferpore	13	12	4,679	95	2	24	42	34	33
31	Durbhanga	11	9	6,359	265	.....	27	35	28	20
32	Saran	13	13	4,578	69	2	9	10	15	24
33	Chumparun	10	10	7,768	402	33	37	104	229	354
	Bhagulpore Division.									
34	Monghyr	14	11	3,975	136	4	2	42	47	55
35	Bhagulpore	13	6	3,383	12	.....	1	6	1	6
36	Purneah	14	7	3,825	16	7	5	8	4	5
37	Maldah	10	2	3,100	3	.....	.....	1	1	.....
38	Sonthal Pergunnahs	6	6	11,254	36	2	13	10	21	8
	Orissa Division									
39	Cuttack	13	12	8,912	223	33	73	105	42	12
40	Puri	6	6	5,166	60	5	12	9	20	15
41	Balasore	10	10	6,393	180	87	106	58	33	15
	Chota Nagpore Division.									
42	Hazaribagh	17	7	7,704	7	3	1	1	1	.....
43	Lohardugga	22	11	5,613	53	10	17	3	16	15
44	Singbhum	6	1	3,123	1	.....	.....	1	.....	.....
45	Manbhum	17	3	6,140	6	1	.....	1	.....	.....
	TOTAL FOR THE PROVINCE ...	645	280	231,077	2,265	288	414	596	667	608

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 8th. March 1887.

Districts of the Bengal Province during each month of the year 1886.

5							6			7		8			9	10
June.	July.	August.	September.	October.	November.	December.	TOTAL.			NUMBER OF THESE DEATHS AMONG CHILDREN.		TOTAL RATIO PER 1,000 OF POPULATION.			Mean ratio per 1,000 of previous five years.	Number.
							Male.	Female.	Total.	Under 1 year.	Under 19 years.	Male.	Female.	Total.		
1	.....	.....	.....	.....	.....	.....	4	3	7	1	1	'005	'004	'005	'07	1
4	1	1	.....	.....	.....	.....	15	16	31	3	8	'02	'02	'02	'02	2
3	.....	.....	.....	.....	.....	.....	3	4	7	.....	.....	'007	'009	'008	'03	3
13	.....	.....	.....	.....	3	2	12	8	20	.....	2	'000	'008	'007	'17	4
.....	.....	1	.....	.....	.....	.....	2	2	4	.....	.....	'008	'005	'004	'03	5
.....	.....	.....	.....	.....	.....	1	2	1	3	.....	1	'01	'005	'008	'04	6
.....	.....	1	.....	.....	2	1	4	3	7	.....	1	'008	'005	'006	'03	7
.....	.....	.....	.....	.....	.....	2	1	2	3	.....	2	'003	'006	'004	'05	8
.....	.....	.....	.....	.....	1	.....	2	4	6	.....	.....	'002	'005	'003	'03	9
.....	.....	.....	.....	2	.....	.....	4	3	7	.....	.....	'02	'02	'02	'40	10
.....	.....	.....	.....	2	1	.....	6	7	13	.....	.....	'008	'007	'006	'08	11
1	.....	1	.....	.....	1	1	5	6	11	2	7	'004	'007	'006	'05	12
.....	.....	3	.....	.....	.....	.....	1	3	4	2	2	'001	'003	'002	'11	13
.....	1	.....	.....	.....	3	.....	10	8	18	.....	1	'01	'01	'01	'008	14
.....	.....	.....	.....	.....	.....	.....	1	3	4	.....	3	'001	'005	'003	'01	15
3	8	3	5	1	.....	.....	32	27	59	1	6	'04	'03	'03	'01	16
4	3	1	1	1	.....	.....	11	9	20	.....	1	'01	'01	'01	'02	17
.....	4	.....	1	.....	1	2	3	11	14	2	2	'002	'01	'006	'002	18
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	'008	19
3	6	.....	.....	.....	.....	.....	17	7	24	.....	1	'003	'10	'01	'13	20
.....	1	.....	.....	1	.....	.....	4	.....	4	.....	.....	'01	.....	'006	'01	21
2	5	3	2	2	1	3	31	19	50	5	27	'02	'01	'02	'11	22
3	.....	.....	.....	.....	4	2	8	9	17	.....	.....	'009	'01	'01	'12	23
16	2	4	2	2	15	25	68	57	125	13	50	'09	'06	'07	'21	24
8	2	3	2	4	.....	2	35	63	98	10	19	'02	'04	'03	'13	25
.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1	'001	.....	'0008	'39	26
.....	.....	.....	.....	.....	.....	1	5	3	8	.....	4	'01	'007	'009	'65	27
1	.....	.....	.....	.....	.....	2	11	.....	11	.....	5	'01	.....	'007	'23	28
2	4	11	.....	9	2	3	32	34	66	13	44	'03	'04	'03	'42	29
27	9	15	33	6	7	8	110	133	243	73	212	'10	'12	'11	'48	30
8	13	8	3	4	1	16	88	78	166	43	165	'09	'07	'08	'13	31
20	18	3	4	3	1	5	92	97	189	35	131	'07	'07	'07	'14	32
43	11	3	1	1	.....	10	83	90	173	46	128	'06	'07	'06	'16	33
22	17	9	3	5	1	2	61	58	119	32	113	'05	'04	'05	'37	34
243	133	107	18	7	7	10	648	634	1,282	419	1,173	'74	'74	'74	'70	35
20	14	10	1	1	11	6	121	92	213	79	200	'12	'09	'10	'30	36
1	1	5	.....	.....	.....	.....	11	12	23	1	12	'01	'01	'01	'35	37
.....	.....	2	3	.....	.....	2	19	17	36	2	19	'02	'01	'02	'02	38
3	12	5	3	1	2	3	39	44	83	18	47	'02	'02	'02	'05	39
1	6	3	1	4	4	16	133	167	300	78	300	'15	'18	'16	'22	40
7	8	5	1	5	1	4	52	40	92	25	66	'11	'09	'10	'55	41
6	6	2	4	5	4	57	182	200	382	70	225	'39	'41	'40	'62	42
1	1	4	.....	.....	.....	.....	6	5	11	1	3	'01	'008	'009	'25	43
12	6	.....	.....	.....	.....	1	46	33	79	.....	.....	'05	'04	'001	'22	44
.....	1	.....	.....	.....	.....	.....	1	.....	1	.....	1	'003	.....	'001	'15	45
.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....	2	'005	.....	'002	'05	46
470	292	213	88	65	72	188	2,038	2,011	4,049	972	2,891	'00	'06	'06	'23	47

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,
Sanitary Commissioner of Bengal.

ANNUAL FORM No. IX.—Deaths registered from **FEVER** in

1	2	3	4							
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.
		Number in each District.	Number from which deaths were reported.	Number in each District.	Number from which deaths were reported.					
Burdwan Division.										
1	Burdwan	20	20	3,667	3,093	1,785	1,681	1,890	1,600	1,521
2	Bankura	13	13	5,617	3,736	950	1,010	1,224	1,109	1,140
3	Birbhum	8	8	3,190	2,632	848	750	901	832	828
4	Midnapore	20	20	14,768	9,551	3,309	2,909	3,024	2,710	2,502
5	Hughli	10	10	1,731	1,604	923	872	937	681	648
6	Serampore	8	8	921	607	440	265	318	263	252
	Total of Hughli, including Serampore ...	18	18	2,656	2,301	1,363	1,137	1,255	944	900
7	Howrah	8	8	1,490	1,065	548	399	487	420	321
Presidency Division.										
8	24-Pergunnahs, exclusive of Suburbs of Calcutta ...	31	31	.....	.....	2,065	1,525	1,541	1,363	1,079
	Suburbs of Calcutta	1	1	.....	.....	341	269	238	232	243
	Total of 24-Pergunnahs ...	32	32	5,458	4,280	2,406	1,794	1,779	1,595	1,321
9	Nuddea	31	31	3,072	2,882	2,073	2,399	3,157	2,909	2,780
10	Jessore	22	22	4,723	4,090	4,408	2,921	2,722	2,810	2,090
11	Murshidabad	27	27	3,697	3,240	1,580	1,315	1,557	1,770	1,585
12	Khulna	15	15	2,800	2,523	2,085	1,314	1,243	1,159	1,015
Rajshahye Division.										
13	Dinajpur	17	17	6,921	6,651	3,005	2,672	2,800	2,673	2,438
14	Rajshahye	14	14	5,169	4,312	3,474	2,225	2,162	2,312	2,630
15	Rangpoore	17	17	6,737	4,372	5,320	4,078	4,732	4,342	3,909
16	Rogra	10	10	4,229	2,650	1,418	1,036	1,184	1,217	979
17	Palna	10	10	3,964	2,631	3,746	2,800	3,112	3,888	3,507
18	Darjiling	5	5	943	319	129	131	156	185	146
19	Jaipauguri	9	9	1,110	998	1,414	1,230	1,405	1,753	1,442
Dacca Division.										
20	Dacca	14	14	5,770	4,067	3,180	2,123	2,282	2,492	2,345
21	Faridpore	14	14	3,892	2,585	2,804	1,643	1,755	1,673	1,555
22	Hackergungo	17	17	4,336	2,810	3,086	1,964	1,972	2,048	1,980
23	Mymensing	18	18	14,676	6,051	3,433	2,709	2,907	3,140	3,083
Chittagong Division.										
24	Chittagong	14	14	1,363	978	1,292	1,137	1,148	863	907
25	Nonkhali	10	10	2,628	1,877	1,411	1,017	990	977	1,128
26	Tippurah	13	13	6,479	4,281	1,890	1,373	1,450	1,316	1,320
Patna Division.										
27	Patna	17	17	5,019	4,049	1,658	1,213	1,217	1,411	1,592
28	Gya	14	14	6,531	5,205	2,603	1,721	1,833	2,172	2,093
29	Shahabad	14	14	5,420	5,130	2,956	2,079	1,948	2,314	2,174
30	Mozufferpore	13	13	4,570	3,507	1,765	1,476	1,628	1,670	1,813
31	Darbhanga	11	11	6,350	2,197	2,292	1,078	1,360	1,777	1,503
32	Saran	13	13	4,578	2,238	968	979	980	1,255	1,176
33	Chumparun	10	10	7,766	3,020	1,479	1,368	1,445	1,605	1,711
Bhagulpore Division.										
34	Monshyr	14	14	3,975	3,155	2,905	2,642	3,058	2,790	2,723
35	Bhagulpore	13	13	3,382	2,609	2,830	2,000	2,305	2,870	2,602
36	Purneah	14	14	3,625	3,474	3,129	2,316	2,855	3,134	2,813
37	Maldah	10	10	3,100	2,298	715	723	704	867	653
38	Southal Pergunnahs	6	6	11,264	5,701	1,306	913	1,000	1,300	1,346
Orissa Division.										
39	Cuttack	13	13	8,012	5,052	2,412	1,861	1,475	1,191	875
40	Puri	6	6	5,166	1,477	270	173	162	228	218
41	Balasore	10	10	6,393	2,935	985	670	614	567	572
Chota Nagpore Division.										
42	Hazaribagh	17	17	7,704	4,512	1,268	967	1,136	1,490	1,441
43	Lohardugga	23	23	8,013	4,520	1,355	1,284	1,881	1,615	1,606
44	Singbhum	6	6	3,123	1,760	581	442	531	507	450
45	Manbhum	17	17	6,140	3,631	720	647	973	1,196	1,147
TOTAL FOR THE PROVINCE		645	645	231,077	140,905	89,884	68,088	74,204	77,069	71,401

OFFICE OF THE SANY. COMM. FOR BENGAL,

The 8th March 1887.

the Districts of the Bengal Province during each month of the year 1883.

5							6			7			8	9
June.	July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 of pre- vious five years.	Number.
							Male.	Female.	Total.	Male.	Female.	Total.		
1,350	1,325	1,575	1,563	1,642	2,324	2,702	11,091	9,021	21,012	16'59	13'71	15'09	22'80	1
854	812	1,025	963	967	1,404	1,561	7,152	6,006	13,158	14'10	11'23	12'63	18'00	2
751	727	985	935	1,008	1,267	1,748	5,954	5,671	11,625	15'60	13'73	14'63	22'57	3
2,218	2,347	2,836	2,603	3,212	4,073	4,905	19,191	17,612	36,803	15'43	13'08	14'55	15'52	4
433	518	643	711	840	1,229	1,569	6,113	4,917	10,030	16'20	14'15	15'12	17'40	5
201	179	232	320	407	554	632	2,126	1,937	4,063	12'19	10'90	11'54	11'77	6
631	697	875	1,031	1,273	1,783	2,201	7,239	6,854	14,093	14'77	13'05	13'88	15'45	
281	333	401	400	464	807	778	3,209	2,448	5,697	10'13	7'80	8'96	8'74	7
1,051	1,249	1,577	1,450	1,803	2,485	3,364	11,150	9,392	20,551	13'47	11'88	12'69	15'31	8
185	234	296	293	339	451	470	1,963	1,027	3,590	13'33	13'60	14'27	17'04	
1,236	1,482	1,873	1,743	2,142	2,936	3,834	13,122	11,019	24,141	13'45	12'31	12'91	15'54	
2,001	1,747	2,640	2,541	3,281	4,729	4,235	10,811	15,900	26,711	23'06	18'70	21'20	32'33	9
1,626	1,801	1,799	2,242	2,944	4,283	4,271	18,894	16,090	34,984	19'59	16'41	18'03	20'84	10
1,350	1,273	1,508	1,815	2,570	2,990	3,134	12,050	10,437	22,487	20'55	16'29	18'33	21'98	11
793	1,030	1,100	1,553	1,692	2,761	3,220	9,570	9,395	18,971	16'84	18'36	17'56	18'21	12
2,129	2,141	2,591	2,799	3,607	4,601	4,655	20,530	15,701	36,231	26'24	21'44	23'92	16'83	13
1,858	1,626	2,214	2,257	3,307	4,212	5,030	17,914	13,443	31,357	27'17	22'61	24'89	27'12	14
3,537	3,544	4,020	4,400	4,801	6,391	7,768	31,217	25,093	56,310	29'23	24'93	27'12	16'39	15
912	1,172	1,304	1,153	1,439	1,809	2,393	8,793	7,518	16,311	24'59	20'78	22'21	19'67	16
2,178	2,024	1,912	2,249	2,914	3,718	4,148	20,028	16,288	36,316	30'89	24'55	27'68	20'86	17
210	284	244	300	278	255	230	1,608	1,040	2,654	16'86	15'07	16'34	7'08	18
1,203	1,333	1,188	1,208	1,543	2,035	2,128	9,920	8,120	18,040	32'40	29'41	31'01	16'72	19
1,747	1,696	1,705	2,162	2,756	3,642	4,016	15,932	14,213	30,145	15'41	13'12	14'24	13'03	20
993	943	991	1,112	1,455	1,920	2,492	10,454	8,492	18,946	12'97	10'51	11'72	10'48	21
1,069	1,769	1,776	1,785	2,512	5,258	6,113	16,122	15,810	31,932	16'56	17'04	16'79	13'95	22
2,741	2,750	2,541	2,800	3,431	3,935	4,377	21,010	10,947	31,957	13'52	11'30	12'43	7'39	23
949	1,097	991	961	1,005	1,606	1,185	6,649	6,012	12,661	12'50	10'00	11'18	11'08	24
1,026	1,116	1,103	962	1,058	1,570	1,693	6,714	7,073	13,787	16'10	17'44	16'79	15'39	25
1,179	1,106	1,232	1,394	1,735	2,058	2,314	9,080	8,783	18,403	12'56	11'78	12'15	10'16	26
1,028	1,929	3,071	2,731	3,306	3,204	2,626	13,813	12,673	26,386	16'08	13'09	15'01	16'18	27
2,759	3,038	4,749	5,209	5,127	5,782	5,590	20,724	19,812	40,536	19'86	18'32	19'07	17'18	28
2,682	3,216	5,046	8,037	9,619	10,157	7,151	29,617	27,732	57,379	31'19	27'33	29'20	14'05	29
1,677	1,636	1,873	2,033	2,318	3,164	3,097	13,784	9,772	23,556	10'89	7'42	9'12	9'42	30
2,069	2,163	2,302	2,449	2,883	3,222	2,903	16,049	11,731	27,780	11'61	8'78	10'16	9'93	31
1,515	1,656	2,388	2,259	2,001	2,151	1,725	10,879	8,186	19,065	10'04	6'83	8'38	7'39	32
1,763	1,784	2,231	2,274	2,335	3,984	3,088	14,144	11,573	25,717	16'24	13'39	14'93	9'97	33
3,121	2,787	4,557	4,463	5,808	7,057	4,520	24,721	22,602	47,323	25'50	22'67	24'07	14'16	34
2,839	2,879	3,439	4,313	5,060	6,518	4,579	21,641	19,746	41,387	23'12	20'04	21'08	15'82	35
2,303	2,196	2,203	2,061	2,091	4,217	4,561	19,414	15,000	34,429	20'79	16'46	18'61	17'06	36
499	518	520	650	1,190	1,340	1,739	5,884	4,822	10,706	16'95	11'89	14'30	17'38	37
1,225	1,555	1,008	2,000	1,776	1,612	1,768	9,671	7,004	17,853	12'56	10'17	11'37	10'95	38
811	875	973	992	1,151	1,314	1,092	7,898	7,734	15,632	8'09	8'43	8'70	8'20	39
173	161	182	216	261	499	752	1,539	1,756	3,295	3'44	3'97	3'70	4'32	40
469	495	750	786	972	1,406	1,823	5,035	5,104	10,199	10'91	10'07	10'78	7'62	41
1,312	1,320	1,850	1,865	1,811	1,835	1,774	6,330	8,730	15,060	17'13	15'50	16'35	14'80	42
1,428	1,524	2,004	2,089	1,839	2,027	1,510	10,563	9,310	19,873	13'25	11'45	12'34	12'54	43
353	420	434	487	402	571	604	3,084	2,677	5,761	10'97	9'52	10'25	10'48	44
965	979	1,349	1,100	883	920	1,034	6,403	5,541	12,000	12'51	10'39	11'34	9'94	45
65,208	67,406	83,144	80,392	104,657	132,654	133,190	560,813	460,483	1,057,306	17'26	14'71	15'07	14'48	

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

ANNUAL FORM No. X.—Deaths registered from BOWEL-COMPLAINTS

1	2	3	4								
Number.	DISTRICTS.	CIRCLES OF REGISTRATION.		VILLAGES.		January.	February.	March.	April.	May.	June.
		Number in each District.	Number from which deaths from Bowel-complaints were reported.	Number in each District.	Number from which deaths from Bowel-complaints were reported.						
Burdwan Division.											
1	Burdwan	20	20	3,687	277	52	35	58	45	35	25
2	Bankura	13	13	5,617	296	45	29	57	39	19	25
3	Birbhum	8	8	3,199	79	7	8	4	3	6	3
4	Midnapore	20	20	14,758	1,872	432	800	995	278	267	231
5	Hughli	10	10	1,731	552	150	118	119	96	85	54
6	Serampore	8	8	924	292	138	107	95	50	43	51
	Total of Hughli, including Serampore ...	18	18	2,655	844	286	223	214	152	128	105
7	Howrah	8	8	1,406	641	294	206	192	134	113	107
Presidency Division.											
8	24-Pergunnahs, exclusive of Suburbs of Calcutta ...	31	31	.....	.....	148	109	108	84	80	71
	Suburbs of Calcutta	1	1	.....	.....	228	159	96	87	71	75
	Total of 24-Pergunnahs ...	32	32	5,468	774	376	268	204	171	151	146
9	Nuddea	31	29	3,072	225	49	26	34	34	37	24
10	Jessore	22	20	4,732	109	19	8	12	14	16	10
11	Murshidabad	27	25	3,687	99	38	28	18	27	34	21
12	Khulna	15	15	2,890	161	32	18	13	14	15	22
Raichahye Division.											
13	Dinajpur	17	16	6,921	211	30	25	17	31	22	14
14	Rajshahye	14	12	5,159	40	14	9	9	14	15	11
15	Rungpore	17	17	6,737	241	22	12	19	42	38	33
16	Bogra	10	8	4,229	21	2	3	6	7	7	5
17	Palna	10	10	3,954	179	37	13	31	65	36	14
18	Darjiling	5	5	943	176	12	26	33	54	83	116
19	Julpauri	9	9	1,110	70	8	3	8	22	5	13
Dacca Division.											
20	Dacca	14	14	5,770	988	423	259	268	415	366	298
21	Faridpore	14	13	3,892	258	100	58	60	57	47	37
22	Backergunge	17	17	4,396	419	68	52	72	84	71	44
23	Mymensing	18	18	14,076	762	148	89	128	298	483	234
Chittagong Division.											
24	Chittagong	14	14	1,363	185	26	29	23	26	59	39
25	Noakhali	10	10	2,628	140	28	12	12	33	31	37
26	Tipperah	13	13	6,479	354	90	54	79	111	94	47
Patna Division.											
27	Patna	17	17	5,619	1,037	214	143	164	263	218	342
28	Gya	14	13	6,531	383	40	50	28	54	45	64
29	Shahabad	14	14	5,420	301	28	31	27	40	15	37
30	Muzafferpore	13	13	4,579	686	119	77	110	94	128	150
31	Darbhanga	11	11	6,366	604	229	176	157	226	214	194
32	Sarun	13	13	4,578	925	200	163	197	204	224	216
33	Chumpanin	10	10	7,766	146	21	18	8	25	35	26
Bhagulpore Division.											
34	Monghyr	14	13	3,975	334	40	25	41	41	51	48
35	Bhagulpore	13	13	3,882	654	102	77	88	121	130	56
36	Purneah	14	13	3,025	132	9	8	11	21	33	27
37	Maldah	10	7	3,100	25	1	.....	1	2	.....	1
38	Sonthal Pergunnahs	6	6	11,254	413	80	55	53	70	78	31
Orissa Division.											
39	Cuttack	13	13	8,912	2,020	412	381	376	274	216	245
40	Puri	6	6	5,166	1,166	230	189	168	189	107	138
41	Balasore	10	10	6,393	1,970	522	418	422	346	271	239
Chota Nagpore Division.											
42	Hazaribagh	17	17	7,704	343	32	39	36	71	60	65
43	Lohardugga	22	22	8,013	945	107	80	109	139	187	136
44	Singbhum	6	6	3,121	385	35	36	61	59	42	73
45	Manbhum	17	17	6,140	453	49	41	66	66	66	76
TOTAL FOR THE PROVINCE ...											
		645	627	231,077	23,429	5,126	3,662	3,968	4,421	4,286	3,778

OFFICE OF THE SANIT. COMM. FOR BENGAL, }

The 8th March 1887. }

in the districts of the Bengal Province during each month of the year 1886.

5						6			7			8	9
July.	August.	September.	October.	November.	December.	TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.			Mean ratio per 1,000 of previous five years.	Number.
						Male.	Female.	Total.	Male.	Female.	Total.		
42	49	36	67	70	106	395	241	636	57	53	44	55	1
34	49	39	33	41	42	285	167	452	56	51	43	63	2
17	14	5	6	18	19	80	40	109	15	11	13	22	3
296	282	284	318	321	412	2,130	1,096	3,734	171	126	148	106	4
71	88	80	136	140	204	724	633	1,357	229	182	204	217	5
60	63	72	75	91	143	503	487	990	288	274	281	253	6
131	151	161	209	240	347	1,227	1,120	2,347	250	213	231	229	
130	106	140	189	268	270	1,130	1,088	2,218	357	341	349	391	7
53	102	104	143	172	200	748	635	1,383	90	80	85	91	8
105	121	144	176	183	237	937	745	1,682	636	714	678	725	
158	223	246	319	355	446	1,635	1,330	3,065	172	154	163	176	
20	23	30	41	59	75	292	181	463	34	21	27	48	9
9	10	6	5	11	15	82	53	135	08	05	06	14	10
13	33	36	39	40	53	223	159	382	38	24	31	29	11
7	13	10	23	38	67	146	114	260	25	22	24	27	12
10	19	23	31	61	60	219	124	343	27	16	22	19	13
12	9	9	16	12	20	97	62	140	14	07	10	10	14
23	18	23	38	67	64	264	130	394	24	12	18	20	15
4	4	5	2	5	5	87	15	52	09	04	07	13	16
20	11	16	23	27	46	194	141	330	30	20	25	26	17
143	65	67	38	41	27	402	325	727	449	476	465	172	18
9	13	15	15	13	23	78	60	147	25	24	25	17	19
157	142	108	309	445	670	2,154	1,715	3,869	208	158	182	152	20
26	31	34	35	49	89	304	259	623	45	31	38	36	21
44	41	38	36	54	112	374	322	696	38	34	36	38	22
136	99	91	109	190	209	1,277	937	2,214	82	62	72	31	23
50	43	46	29	35	56	231	229	460	43	38	40	57	24
18	15	14	20	25	33	142	186	278	34	33	33	20	25
23	16	21	48	78	134	430	350	795	66	47	62	56	26
294	539	453	379	392	327	3,021	1,647	5,068	255	185	208	244	27
101	181	220	191	173	84	706	535	1,241	67	49	58	47	28
42	119	105	111	110	67	482	256	738	50	25	37	30	29
157	210	205	187	174	109	1,074	712	1,786	84	54	69	93	30
189	143	198	204	226	274	1,416	1,013	2,429	109	75	92	112	31
251	385	351	326	461	281	1,927	1,335	3,262	177	111	145	163	32
19	84	37	43	33	11	215	95	310	24	11	18	24	33
61	91	84	115	141	81	487	332	819	50	33	41	35	34
116	114	183	174	175	144	888	624	1,512	90	63	78	81	35
6	12	11	22	30	26	129	87	216	13	09	11	14	36
.....	4	2	4	1	12	17	11	28	01	03	03	05	37
100	143	93	63	55	29	408	351	840	63	44	54	26	38
221	256	229	275	299	284	2,077	1,361	3,438	236	148	191	204	39
163	216	179	178	234	302	1,235	1,067	2,302	289	241	265	207	40
284	353	308	381	408	400	2,396	2,040	4,432	517	422	469	532	41
57	69	64	63	49	30	388	246	634	71	43	57	85	42
168	242	194	126	142	107	1,002	734	1,736	125	90	108	140	43
40	69	53	52	41	44	378	243	621	134	86	110	155	44
78	79	54	63	55	39	400	265	731	88	49	69	90	45
3,891	4,800	4,620	4,954	5,708	6,259	31,703	23,930	55,693	706	71	84	89	

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

APPENDIX No. II.



**STATEMENT AND MAP ILLUSTRATING THE DISTRIBUTION
OF CHOLERA IN BENGAL.**

DURING THE YEAR 1886.

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Burdwan	1	Burdwan ... T.	34,080	March 1886	December 1886	22	April, November and December.	1	1
	2	Kulna	10,901	Ditto	Ditto	32	March to May, July and October to December.	1	1
	3	Ranigunge	10,937	February	Ditto	13	February, May, July and September to December.	1	1
	4	Burdwan ... R.C.	27,330	May	Ditto	17	May and December	105	3
	5	Selmabad	71,709	March	Ditto	61	November and December.	228	5
	6	Royra	97,190	October	Ditto	19	December	266	2
	7	Khandghose	84,981	Ditto	Ditto	73	October to December	146	5
	8	Gangoor	102,748	March	Ditto	70	March, November and December.	373	8
	9	Sahelgunge	75,171	February	Ditto	31	April and December	166	12
	10	Hood-Hood	79,073	March	Ditto	36	March and December	209	5
	11	Ausgram	97,311	January	Ditto	39	January and March	232	8
	12	Kalna	81,583	February	Ditto	34	October to December	206	5
	13	Purbusthali	82,070	March	Ditto	86	April, May, November and December.	251	16
	14	Montessor	63,063	Ditto	Ditto	135	March, April, November and December.	183	25
	15	Cutwa	82,943	Ditto	Ditto	172	April, November and December.	167	28
	16	Katugram	73,723	Ditto	Ditto	171	April, May, November and December.	179	39
	17	Mongolekote	73,543	January	Ditto	124	March, April, November and December.	182	10
	18	Ranigunge	135,040	February	Ditto	14	Slight	290	5
	19	Kakasa	38,980	January	Ditto	71	January and December.	111	6
	20	Asonsole	98,842	June	August	9	Slight	310	3
	District Total	1,301,823	January	December	1,229	March, April, November and December.	3,667	194	
Bankura	21	Bankura ... T.	18,747	January	December	16	January, March and December.	13	2
	22	Bissenpore	21,283	March	Ditto	11	July, November and December.	Not furnished.	.....
	23	Sonamukhi	12,610	February	Ditto	120	August and October to December.	747	20
	24	Bankura ... R.C.	108,804	February	Ditto	75	October	700	10
	25	Gangajalghati	173,007	March	Ditto	60	February, October, and December.	759	15
	26	Auda	119,321	February	Ditto	24	April	845	6
	27	Soopore	90,122	March	November	18	November and December.	679	4
	28	Raipore	95,802	November	December	24	Ditto	284	3
	29	Simalpal	32,682	January	Ditto	64	January, March and April.	464	20
	30	Bissenpore	119,595	January	Ditto	1	Very slight	271	1
	31	Sonamukhi	67,400	September	September	20	December	283	4
	32	Indus	78,809	January	Ditto	49	November and December.	463	13
	33	Kotalpur	94,904	Ditto	Ditto				
	District Total	1,041,752	January	December	488	December	5,617	107	
Birbhum	34	Soori ... T.	7,848	July	August	4	July and August	1	1
	35	Soori ... R.C.	118,801	January	December	40	November	583	11
	36	Dubrajpore	120,566	March	Ditto	10	Slight	465	3
	37	Bolpur	107,803	Ditto	Ditto	103	December	435	21
	38	Sakulpur	122,723	Ditto	Ditto	265	November and December.	491	42
	39	Rampurhat	87,774	April	Ditto	35	December	201	12
	40	Mourdeswar	88,836	June	Ditto	74	August, November and December.	403	25
	41	Nulhati	133,897	May	Ditto	61	December	530	14
	District Total	794,428	January	December	593	November and December.	3,199	120	
Midnapore	42	Midnapore ... T.	33,560	January	December	51	February, July, November and December.	1	1
	43	Ghattal	12,633	Ditto	Ditto	25	January to April, October and December.	1	1
	44	Chundrakona	12,257	Ditto	June	9	January to March	1	1
	45	Ramjibanpore	10,009	March	December	13	March and December	1	1
	46	Midnapore ... R.C.	128,546	January	Ditto	86	January, March and November.	1,340	16
	47	Binpore	90,704	Ditto	Ditto	19	December	772	5
	48	Danton	128,447	Ditto	Ditto	277	March, July, August, and October to December.	620	60
	49	Debra	70,128	Ditto	Ditto	85	March and November	779	22
	50	Gariyatta	135,786	Ditto	Ditto	302	March and October to December.	1,008	84
	51	Gopiballulpore	139,928	February	Ditto	37	November and December.	1,272	10
	52	Jhargram	89,783	January	July	41	May	607	10
	53	Keshpur	95,609	Ditto	December	84	March, November and December.	905	34
	54	Narainghar	129,109	Ditto	Ditto	225	January, February, July, and October to December.	1,017	70

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registrations as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Midnapore— concd.	55	Saiboni R.C.	53,617	February 1886...	December 1886...	8	Very slight	492	8	484
	56	Sabong "	201,714	January ...	Ditto ...	196	January, February, October and December.	745	66	679
	57	Ghattal "	79,455	Ditto ...	Ditto ...	29	February and December	339	8	331
	58	Chundrakona "	64,805	Ditto ...	Ditto ...	81	January, February, August, September and November.	276	20	256
	59	Daspur "	115,289	Ditto ...	Ditto ...	177	January, March to May, November and December.	406	64	342
	60	Tamluk "	80,049	Ditto ...	Ditto ...	168	January to March and October to December.	271	37	234
	61	Maslandpur "	80,509	Ditto ...	Ditto ...	303	Ditto ...	252	85	167
	62	Nandigram "	121,895	Ditto ...	Ditto ...	420	January to March, July and October to December.	274	51	223
	63	Panchkura "	142,081	Ditto ...	Ditto ...	180	January, February and October to December.	648	63	585
	64	Sutahatta "	51,624	Ditto ...	Ditto ...	96	January to March and December.	247	39	208
	65	Contai "	180,554	Ditto ...	Ditto ...	600	January to May, November and December.	740	171	569
	66	Egra "	63,417	Ditto ...	Ditto ...	127	January, February, April, August, November and December.	376	29	347
	67	Pataspur "	87,224	Ditto ...	Ditto ...	156	January to March, July, August, November and December.	456	36	420
	68	Raghunathpur "	62,124	Ditto ...	Ditto ...	505	January to May and October to December.	395	105	290
Hughli	69	Bhagwanpur "	96,451	Ditto ...	Ditto ...	262	January and October to December.	382	70	312
	70	Khajri "	42,126	Ditto ...	Ditto ...	127	January, February, July, August, November and December.	135	41	94
	District Total		2,515,565	January	December	4,632	January to April and October to December.	14,768	1,214	13,544
	71	Hughli T.	38,718	January	December	199	February to April and October to December.	101	45	56
	72	Jehanabad "	10,507	Ditto	Ditto	5	January, April and December.	17	1	16
	73	Balagore R.C.	48,218	October	Ditto	105	October to December	159	24	135
	74	Polba "	46,173	January	Ditto	36	January, February and December.	173	11	162
	75	Hughli "	15,458	Ditto	Ditto	112	January, March, April, November and December.	49	9	40
	76	Dhaniakhali "	98,007	April	Ditto	29	August ...	390	7	379
	77	Pandua "	66,111	February	Ditto	19	April ...	184	8	176
	78	Jehanabad "	99,905	January	Ditto	45	April and December	218	21	197
	79	Khanskul "	135,300	Ditto	Ditto	85	Slight ...	231	17	214
	80	Goghat "	111,121	Ditto	Ditto	108	January, February, October and December.	213	14	199
	District Total		603,050	January	December	603	January, February, April and October to December.	1,731	157	1,574
Serampore	81	Serampore T.	26,490	January	December	202	January to April, July, August, and October to December.	7	7	.....
	82	Boidobatty "	14,718	Ditto	Ditto	35	March to May, and October to December.	11	8	3
	83	Uttarpara "	5,610	Ditto	Ditto	20	January, March, April and July to December.	1	1	.....
	84	Serampore R.C.	21,620	Ditto	Ditto	30	January, March, November and December.	23	15	8
	85	Singoor "	59,184	Ditto	Ditto	134	October to December	163	16	147
	86	Haripal "	84,983	Ditto	Ditto	62	January and December.	365	21	344
	87	Chunditola "	84,387	Ditto	Ditto	215	November and December.	192	36	156
	88	Krishnagore "	55,107	Ditto	Ditto	12	December	172	6	166
District Total		351,955	January	December	710	January, April, and October to December.	924	110	814	
Howrah	89	Howrah T.	90,813	January	December	528	January to December.	1	1	.....
	90	Balli "	14,816	March	Ditto	59	March, August and October to December.	9	6	3
	91	Doomjer R.C.	128,477	January	Ditto	349	January to March, August and October to December.	205	74	131
	92	Jagathallahpore "	77,539	Ditto	Ditto	109	January, November and December.	107	42	125
	93	Ulluberia "	81,345	Ditto	Ditto	63	November and December.	803	51	312

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registrations as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during this year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Howrah— concd.	94	Amta R.C.	109,966	January 1886 ...	December 1886 ..	63	September, October and December.	216	22 194
	95	Bagnan "	63,563	Ditto ...	Ditto ...	127	March, May and October to December.	210	49 170
	96	Shampur... .. "	68,861	Ditto ...	Ditto ...	103	January to March, and October to December.	316	38 278
		District Total ...	635,381	January ...	December ...	1,404	January to April, and September to December.	1,486	243 1,213
24 Pargunnahs	97	Suburbs of Calcutta T.	251,439	January ...	December ...	1,843	January to December ...	98	72 26
	98	South Suburban ..	51,638	Ditto ...	Ditto ...	122	January, February, April, and September to December.	38	31 7
	99	Baranagore	29,982	Ditto ...	Ditto ...	223	January, March to May, July, August and October to December.	15	14 1
	100	Rajpore	10,578	April ...	Ditto ...	4	April, August, November and December.	8	4 4
	101	Augurpara	22,759	January ...	Ditto ...	76	February, April, July, August and October to December.	16	15 1
	102	Nowabganj	18,018	Ditto ...	Ditto ...	147	January, February, May and September to December.	11	7 4
	103	Naihatti	21,533	Ditto ...	Ditto ...	110	January, March, April and October to December.	30	23 7
	104	Bussirhat	20,450	Ditto ...	Ditto ...	42	January to April and December.	19	12 7
	105	Baduria	19,135	Ditto ...	Ditto ...	61	January, April, November and December.	18	9 9
	106	Taligunge ... R.C.	47,793	Ditto ...	Ditto ...	44	January, November and December.	143	14 129
	107	Achipore	69,536	Ditto ...	Ditto ...	68	October to December ...	178	26 152
	108	Bistopore	71,717	Ditto ...	Ditto ...	111	November and December.	250	33 217
	109	Sonarpore	31,858	Ditto ...	Ditto ...	55	January to April, November and December.	162	20 142
	110	Bhangor	78,862	Ditto ...	Ditto ...	243	January to April, November and December.	317	60 257
	111	Barriepur	75,830	Ditto ...	Ditto ...	145	January, February, May, November and December.	360	55 205
	112	Joynagore	76,140	Ditto ...	Ditto ...	371	January to May and December.	228	61 167
	113	Kanning	47,518	Ditto ...	Ditto ...	303	January, March, November and December.	240	63
	114	Dum-Dum	81,578	Ditto ...	Ditto ...	94	August, November and December.	75	21 54
	115	Barrackpore	21,660	March ...	Ditto ...	20	March, October and December.	63	5 58
	116	Naihatti	55,429	January ...	Ditto ...	197	January, March, April, November and December.	183	18 165
	117	Baraset	73,131	February ...	Ditto ...	57	December.	282	26 256
	118	Dygunga	63,616	January ...	Ditto ...	163	November and December.	154	23 131
	119	Habra	75,429	Ditto ...	Ditto ...	202	January to May and December.	252	40 212
	120	Bussirhat	55,887	Ditto ...	Ditto ...	128	January, February and December.	165	38 127
	121	Husnabad	67,227	Ditto ...	Ditto ...	283	February to May, November and December.	175	43 133
	122	Baduria	104,606	Ditto ...	Ditto ...	282	January to April and December.	196	75 121
	123	Haroa	49,292	Ditto ...	Ditto ...	190	January to April, and October to December.	221	49 173
	124	Diamond Har- bour.	52,828	Ditto ...	Ditto ...	114	January to March, November and December.	262	28 234
	125	Kulpi	80,319	Ditto ...	Ditto ...	387	January to May, November and December.	427	60 358
	126	Debipur	43,485	Ditto ...	Ditto ...	35	January, February and December.	260	14 246
	127	Bankipur	107,275	Ditto ...	Ditto ...	325	January, February and October to December.	382	69 313
	128	Mothurapur	50,453	Ditto ...	Ditto ...	301	January to May, November and December.	239	57 182
		District Total ...	1,869,859	January ...	December ...	6,791	January to May and October to December.	5,458	1,094 4,364
Nuddea	129	Kishnaghur ... T.	27,477	February ...	December ...	87	February to May, November and December.	1	1
	130	Nobodip	14,103	Ditto ...	Ditto ...	26	Ditto, ditto ...	1	1
	131	Ranaghat	8,683	April ...	Ditto ...	33	April, November and December.	1	1
	132	Santipore	29,687	July ...	Ditto ...	69	November and December.	1	1
	133	Kustia	9,717	January... ..	Ditto ...	11	January, March to May, August and December.	1	1

Statement prefixed to Map illustrating to distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Nuddea— concd.	134	Meherpur ... T.	5,731	March 1886	December 1886...	29	March, April, June, November and December.	1	1	.....
	135	Kishnaghur ... R.C.	77,887	January...	Ditto ...	498	March to May, November and December.	172	55	117
	136	Hanskhali ... "	45,340	Ditto ...	Ditto ...	305	January to March, November and December.	94	45	49
	137	Kissenganj ... "	32,701	Ditto ...	Ditto ...	222	January, February, April, May, November and December.	48	34	14
	138	Chupra ... "	63,509	March ...	Ditto ...	306	March to May, November and December.	109	46	63
	139	Nakashipara ... "	59,762	January ...	Ditto ...	63	April and December.	128	24	104
	140	Kaliganj ... "	54,192	February ...	Ditto ...	78	March, April, November and December.	100	22	78
	141	Ranaghat ... "	75,732	January...	Ditto ...	299	January, February, April, May, November and December.	100	77	122
	142	Santipore ... "	24,177	Ditto ...	Ditto ...	235	January, May, November and December.	57	31	26
	143	Chogdah ... "	64,620	Ditto ...	Ditto ...	110	March, April and December.	101	26	135
	144	Haringhatta ... "	38,306	Ditto ...	Ditto ...	110	January, March to May, November and December.	91	14	77
	145	Kustia ... "	17,720	Ditto ...	June ...	77	January and March to June.	22	14	8
	146	Kumerkhali ... "	98,247	Ditto ...	December ...	503	January to May and December.	246	88	158
	147	Doulatpur ... "	74,178	Ditto ...	Ditto ...	471	January to June, November and December.	124	47	77
	148	Nowpara ... "	136,713	Ditto ...	Ditto ...	438	January to May, November and December.	220	75	145
	149	Bhaluka ... "	41,929	Ditto ...	Ditto ...	92	January to June, November and December.	111	32	79
	150	Bhadulia ... "	68,184	Ditto ...	Ditto ...	102	May, June, November and December.	137	39	98
	151	Chudanga ... "	21,818	Ditto ...	Ditto ...	46	April, May, November and December.	37	9	28
	152	Alamdanga ... "	89,947	Ditto ...	Ditto ...	249	April to June and December.	150	51	99
	153	Damurhudda ... "	63,014	Ditto ...	Ditto ...	668	March to June, November and December.	113	63	50
	154	Kalupol ... "	39,396	Ditto ...	Ditto ...	144	January, February, May, November and December.	75	7	68
	155	Jibannagar ... "	40,129	Ditto ...	Ditto ...	317	January to May, November and December.	77	36	41
	156	Meherpur ... "	8,574	March ...	Ditto ...	483	March to June, November and December.	112	63	49
	157	Tebatta ... "	8,166	Do ...	Ditto ...	238	March to May, November and December.	140	52	88
	158	Karimpur ... "	102,754	Ditto ...	Ditto ...	362	April, May, November and December.	201	50	151
	159	Gangni ... "	74,955	January...	Ditto ...	236	April and May ...	142	42	100
		District Total ...	1,655,721	January...	December ...	7,006	January to May, November and December.	3,072	1,048	2,024
Jessore	160	Jessore ... T.	8,495	January...	December ...	25	January to May, November and December.	11	7	4
	161	Kotwali ... R.C.	158,859	Ditto ...	Ditto ...	1,184	January to April and December.	414	131	283
	162	Bagherpara ... "	63,902	Ditto ...	Ditto ...	187	January to April ...	190	28	162
	163	Monirampur ... "	156,611	Ditto ...	Ditto ...	191	January, February and April.	348	39	309
	164	Godkhali ... "	67,420	Ditto ...	Ditto ...	379	January to April and December.	147	9	138
	165	Kaliganj ... "	89,202	Ditto ...	Ditto ...	539	January to May and December.	231	43	188
	166	Keshubpur ... "	85,450	Ditto ...	Ditto ...	19	December ...	152	6	146
	167	Jhenida ... "	102,627	Ditto ...	Ditto ...	543	January to May ...	290	64	232
	168	Kotchandpur ... "	44,038	Ditto ...	Ditto ...	316	January to May, November and December.	93	43	50
	169	Salkopa ... "	138,305	Ditto ...	Ditto ...	377	February to May and December.	315	82	233
	170	Harinakundo ... "	41,606	Ditto ...	Ditto ...	86	January, May, June, November and December.	120	14	106
	171	Magoora ... "	159,162	Ditto ...	Ditto ...	1,090	January, March to June, November and December.	448	187	261
	172	Salukha ... "	50,464	Ditto ...	Ditto ...	280	January, April, May and December.	132	40	83
	173	Mahamadpur ... "	85,977	Ditto ...	Ditto ...	546	January to May and December.	297	63	214
	174	Narail ... "	151,362	Ditto ...	Ditto ...	140	January, April and December.	389	119	270
	175	Kalia ... "	72,947	Ditto ...	Ditto ...	227	January to March and December.	146	76	70
	176	Lohagura ... "	103,863	Ditto ...	Ditto ...	120	January, April and December.	267	38	229
	177	Bongong ... "	59,008	Ditto ...	Ditto ...	130	January to April ...	139	20	119
	178	Gaighatta ... "	50,223	March ...	Ditto ...	72	March, April and December.	112	8	104

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registrations as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	Affected by Cholera.	Not affected by Cholera.
Jessore— concd.	179	Gareaspota ... R.C.	61,052	January 1886	December 1886	360	January to May and December.	124	29	95
	180	Mohespore ... "	112,137	Ditto	Ditto	731	Ditto, ditto	213	94	122
	181	Sarsha ... "	79,046	Ditto	April	549	January to April	145	51	94
		District Total ...	1,930,375	January	December	7,891	January to May and December.	4,732	1,220	3,512
Murshidabad ...	182	Berhampore ... T.	23,005	January	December	153	July, November and December.	1	1	...
	183	Kandi ... "	10,061	March	Ditto	18	March, August, November and December.	1	1	...
	184	City Murshidabad ...	39,231	February	December	123	April to August and October to December.	1	1	...
	185	Junkipur ... "	10,187	January	November	24	January, March to September and November.	1	1	...
	186	Burwa ... R.C.	67,012	April	December	26	December	157	23	134
	187	Jelunghi ... "	108,508	Ditto	Ditto	86	April, May, November and December.	213	24	189
	188	Doulthazar ... "	39,558	Ditto	Ditto	17	May and November	115	8	107
	189	Sujanaj ... "	8,345	December	Ditto	3	December	50	1	49
	190	Gorbazar ... "	12,633	May	Ditto	28	July, November and December.	46	5	41
	191	Goss ... "	78,423	September	Ditto	28	December	229	7	222
	192	Haridharpura ... "	67,135	March	Ditto	163	March, April, November and December.	122	34	88
	193	Nowada ... "	47,559	Ditto	Ditto	195	March to May and December.	81	25	56
	194	Kandi ... "	79,650	January	Ditto	181	January, February, June to September, November and December.	302	51	251
	195	Gokurn ... "	42,440	April	Ditto	57	October to December	109	20	89
	196	Bharatpur ... "	108,025	March	Ditto	107	March to May, November and December.	231	41	190
	197	Khargaon ... "	54,018	November	Ditto	101	November and December.	122	17	105
	198	Assanpur ... "	11,177	April	Ditto	32	April, July, October and November.	122	12	110
	199	Bhugwangolla ... "	57,238	Ditto	Ditto	62	April and May	261	17	244
	200	Kalianganj ... "	37,206	July	Ditto	63	November and December.	197	21	176
	201	Shahanagar ... "	9,523	April	Ditto	3	April, May and December.	170	18	152
	202	Manullabazar ... "	1,979	Ditto	April	3	April	69	1	68
	203	Sagardishi ... "	27,859	Ditto	December	86	May, July, November and December.	149	4	145
	204	Roghunathganj ... "	57,209	Ditto	Ditto	87	May	145	14	131
	205	Dewanisera ... "	55,036	May	November	35	May and November	219	11	218
	206	Shamsheganj ... "	69,536	April	Ditto	26	May	225	13	212
	207	Sooti ... "	66,556	May	August	10	May	184	2	182
	208	Mirzapur ... "	45,496	November	December	19	November and December.	165	4	161
		District Total ...	1,224,790	January	December	1,738	April, May, November and December.	3,497	377	3,320
Khulna ...	209	Khulna ... T.	6,178	January	December	49	January, February, April and September to December.	1	1	...
	210	Satkhira ... "	8,738	Ditto	May	7	January and March to May.	10	4	6
	211	Khulna ... R.C.	121,213	Ditto	December	273	January to April and December.	222	48	174
	212	Damura ... "	109,020	Ditto	Ditto	200	January to May and December.	294	41	253
	213	Baitaghlata ... "	37,501	Ditto	Ditto	171	January to March, November and December.	129	55	74
	214	Pukgacha ... "	70,478	Ditto	Ditto	96	January to April and December.	240	35	205
	215	Hagirhat ... "	137,818	Ditto	Ditto	178	January, March, April, July and December.	347	57	290
	216	Mallahat ... "	50,478	Ditto	Ditto	90	January, February and December.	121	31	90
	217	Rampal ... "	49,827	Ditto	Ditto	55	January to April and November.	178	13	165
	218	Morellganjo ... "	62,670	Ditto	Ditto	34	May and December	203	22	181
	219	Satalura ... "	87,870	Ditto	Ditto	123	January to April and December.	193	21	172
	220	Kahrna ... "	81,398	Ditto	Ditto	174	Ditto ditto.	150	34	116
	221	Magura ... "	48,212	April	April	2	Very slight	132	2	120
	222	Assuni ... "	62,412	January	October	61	January and March to May.	249	21	228
	223	Kaliganj ... "	146,180	Ditto	December	224	January, April, May, November and December.	431	56	375
		District Total ...	1,079,948	January	December	1,727	January, to April and December.	2,890	441	2,449
Dinajpur ...	224	Dinajpur ... T.	12,500	April	December	9	April and December	1	1	...
	225	Dinajpur ... R.C.	199,826	January	Ditto	84	April	731	13	718
	226	Rajshampore ... "	139,891	Ditto	Ditto	25	December	441	6	435
	227	Birwanj ... "	220,397	Ditto	Ditto	174	October to December	331	37	294
	228	Thakurgaon ... "	75,102	Ditto	Ditto	106	January and October to December.	195	6	189

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

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DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.	
Dinnajpur— concl'd.	229	Pirganj	93,880	January 1886 ...	May 1886 ...	10	Very slight	352	4	348
	230	Hemtabad	85,287	Ditto	December ...	19	January	329	1	328
	231	Nawabganj	61,637	April	April	1	Very slight	468	1	467
	232	Kaliganj	94,882	January	June	32	January	482	6	476
	233	Banihari	81,877	Ditto	Ditto	14	Ditto	620	6	614
	234	Patnitolla	69,238	.....	.....	10	Slight	513	3	513
	235	Mohadobpore	67,265	January	November ...	.....	.....	430	.....	427
	236	Parsha	48,586	.....	.....	.....	.....	305	.....	305
	237	Patiram	70,861	January	December ...	61	January, June and December.	684	8	676
	238	Gungarampore... ..	74,491	Ditto	Ditto	87	January and November.	443	12	431
239	Chintamon	52,068	Ditto	Ditto	42	March, April and December.	381	10	371	
240	Parbatipur	66,708	Ditto	January	9	January	215	1	214	
	District Total ...	1,514,346	January ...	December ...	633	December	6,921	118	6,803	
Rajshahye	241	Beaulah T.	19,791	April	December ...	52	April, May, July and December.	Not separately furnished.		
	242	Beaulah... .. R.C.	81,096	January	May	21	April	422	35	387
	243	Tanor	85,600	April	April	8	Ditto	395	5	390
	244	Godagari	43,799	Ditto	June	4	Very slight	332	1	331
	245	Pu	121,238	February	Ditto	83	April	295	18	277
	246	Chaughat	124,160	January	December ...	42	December	307	7	292
	247	Bugimara	121,581	February	July	25	April	461	32	429
	248	Nattoro	153,662	January	December ...	101	May to July	405	63	342
	249	Singra	112,697	Ditto	Ditto	170	April and May	576	31	545
	250	Burigram	121,554	Ditto	Ditto	181	April, May and December.	248	21	227
251	Lalpur	84,962	January	Ditto	167	Ditto	346	20	326	
252	Naugson	86,840	Ditto	Ditto	87	January, April to June and December.	625	7	618	
253	Manda	103,308	February	June	50	February and June	391	42	349	
254	Panchpur	79,431	January	December ...	99	January, April, May and December.	5,159	300	4,859	
	District Total ...	1,338,638	January ...	December ...	1,049	April, May and December				
Rungpore	255	Rungpore T.	13,320	April	December ...	12	April, June, August and December.	1	1	.....
	256	Mairanj R.C.	116,210	Ditto	Ditto	546	April to December ...	728	90	638
	257	Kaliganj	156,607	February	Ditto	284	March to May and September.	386	21	365
	258	Nisbotganj	124,507	May	Ditto	108	May, August and September.	327	13	314
	259	Kumarganj	88,619	January	Ditto	62	April, May, November and December.	139	17	122
	260	Mitapukhr	99,063	April	Ditto	90	May, June, August and December.	431	20	411
	261	Pirganj	69,008	Ditto	Ditto	16	May and December ...	394	4	390
	262	Dindia	138,762	Ditto	November ...	92	September to November	59	15	44
	263	Jaldaka	163,600	Ditto	December ...	188	August to December ...	148	28	120
	264	Darwani	142,500	Ditto	Ditto	80	July and December ...	185	14	171
265	Barabari	177,200	Ditto	Ditto	160	December	770	20	750	
266	Nagoshwari	177,200	February	Ditto	860	April, June, July, September, November and December.	564	92	472	
267	Ulipur	215,213	January	Ditto	920	January, May, July and September to December.	1,052	80	972	
268	Govindganj	189,027	Ditto	Ditto	436	June, July and October to December.	807	64	833	
269	Bhowaniganj	57,803	November	Ditto	747	November & December	80	35	45	
270	Sodulganj	112,563	January	Ditto	806	Ditto	349	44	305	
271	Sunderganj	91,409	April	Ditto	628	May to July and September to December.	197	43	154	
	District Total ...	2,097,964	January ...	December ...	6,127	April to June and September to December.	6,737	604	6,133	
Bogra	272	Bogra T.	6,179	April	April	8	April	21	2	19
	273	Bogra R.C.	216,750	January	December ...	117	April, May and July ...	970	23	956
	274	Sherpur	47,463	April	September ...	64	April and May	284	17	267
	275	Sherakandi	103,228	January	December ...	474	October to December ...	453	67	386
	276	Khetlal	40,023	March	August	50	May, June and August ...	369	8	361
	277	Sibganj	59,080	May	December ...	62	July and August	445	12	433
	278	Adamdighi	94,544	January	Ditto	112	January, April and May	617	41	576
	279	Panchbibi	66,724	November	November ...	8	Very slight	559	1	558
	280	Nawabganj	30,374	May	June	7	May	327	3	324
	281	Dhanshet	61,063	January	December ...	77	January, May, November and December.	254	15	239
	District Total ...	734,358	January ...	December ...	969	April, May and October to December.	4,220	189	4,040	
Patna	282	Pubna T.	15,267	March	December ...	105	March to May and December.	15	10	5
	283	Serajganje	21,037	January	Ditto	41	January, March, April, November and December.	18	11	7
	284	Pubna R.C.	174,381	April	Ditto	539	April, May and December.	597	114	483
	285	Dulal	186,363	January	June	1,293	January and March to May.	618	171	347
286	Chatmohar	133,407	Ditto	December ...	285	March to May and December.	435	67	368	

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Pabna—concd.	287	Muthura ... R.C.	102,486	March 1886	December 1886	292	March to May	276	53	223
	288	Serajgunge	198,118	January	Ditto	155	April and December	495	51	434
	289	Shazadpore	216,494	Ditto	Ditto	283	April, May and December.	572	75	497
	290	Ulapara	171,711	Ditto	Ditto	152	January, March, April and December.	650	34	612
	291	Raiganj	92,374	Ditto	Ditto	88	April and December	524	28	500
		District Total ...	1,311,724	January	December	3,235	March to May and December.	3,064	618	3,336
Darjiling	292	Darjiling ... T.	7,976	June	June	3	June	1	1	.....
	293	Darjiling ... R.C.	46,300	July	August	8	August	89	.....	89
	294	Kalimpong	12,483	July	Ditto	157	April to August	32	2	30
	295	Kurseong	26,937	March	Ditto	63	May, July and August	84	16	68
	296	Phansidewa	63,211	May	December	63	May, July and August	737	12	725
		District Total ...	156,137	March	December	231	May to August	943	31	912
Julpauri	297	Julpauri ... T.	7,947	June	October	3	June, July and October	1	1	....
	298	Julpauri ... R.C.	67,171	July	December	45	July and December	61	6	55
	299	Suliguri	80,178	Ditto	Ditto	142	July to December	240	34	246
	300	Boda	178,643	November	Ditto	81	November and December.	484	20	464
	301	Patgram	64,636	February	Ditto	22	September and November.	28	6	22
	302	Mynasuri	66,451	July	Ditto	177	October to December	43	21	22
	303	Kairaiti	32,453	Ditto	Ditto	112	July, August and October to December.	68	15	53
	304	Alipore	32,086	May	Ditto	93	July, October and November.	81	10	71
	305	Salbari	51,697	August	Ditto	655	August to December	64	50	34
		District Total ...	541,562	February	December	1,330	October to December	1,110	143	967
Dacca	306	Dacca ... T.	80,161	January	December	156	April, September, November and December.	189	93	106
	307	Narainganj	12,561	Ditto	Ditto	121	January, March to May, August, September and December.	25	15	10
	308	Lalbagh ... R.C.	161,287	Ditto	Ditto	984	January, April, November and December.	474	310	155
	309	Kapasia	119,515	Ditto	Ditto	119	January, April, May and December.	460	27	433
	310	Sabhar	174,831	Ditto	Ditto	395	January, February, April and December.	504	98	406
	311	Nowabganj	180,235	Ditto	Ditto	682	January, April, November and December.	300	111	189
	312	Narainganj	91,199	Ditto	Ditto	163	March, April and December.	685	59	626
	313	Raipura	202,738	Ditto	Ditto	253	January, March to May and December.	514	59	455
	314	Rupgunge	164,159	Ditto	Ditto	590	January, March to July and December.	652	136	516
	315	Moonshiganj	243,403	Ditto	Ditto	758	January, April, May and December.	556	420	136
	316	Srinagar	275,984	Ditto	Ditto	1,186	January, November and December.	231	110	124
	317	Manikganj	181,196	Ditto	Ditto	253	January, April and December.	417	72	345
	318	Jafferganj	143,012	Ditto	Ditto	271	January, March to May and December.	481	109	372
	319	Harirampur	100,000	February	Ditto	456	March to May, November and December.	230	91	148
		District Total ...	2,116,860	January	December	6,382	January, March to May, November and December.	5,770	1,719	4,051
Faridpore	320	Faridpore ... T.	10,263	February	May	178	February to May	1	1	....
	321	Faridpore ... R.C.	81,288	March	June	935	March to June	195	84	111
	322	Bhushna	107,415	January	December	772	February to June and December.	295	97	198
	323	Awanpur	100,257	Ditto	Ditto	233	January and March to May.	217	30	187
	324	Maksudpur	156,933	Ditto	Ditto	310	March, April and December.	316	46	264
	325	Bhanga	164,389	Ditto	Ditto	974	January, March to May and December.	382	129	253
	326	Madaripur	165,917	Ditto	Ditto	192	January, April, May and December.	608	64	544
	327	Polong	250,250	Ditto	Ditto	739	January to May and December.	480	133	347
	328	Gopalganj	85,341	Ditto	Ditto	87	January and December	132	17	115
	329	Sibchar	116,943	Ditto	Ditto	149	April, May and December.	194	41	153
	330	Kotalipara	66,153	Ditto	Ditto	139	January to May and December.	235	50	185
	331	Goalundo	106,050	Ditto	Ditto	1,429	March to May, July and December.	290	116	174
	332	Pangra	150,366	Ditto	Ditto	315	April and May	282	59	223
333	Belakandi	66,069	Ditto	June	982	January to June	271	120	151	
		District Total ...	1,631,734	January	December	7,395	January, March to June and December.	3,892	987	2,805

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Backergunge	334	Barrisal ... T.	13,186	March 1886	December 1896	40	March to May and Dec- ember.	1	1
	335	Barrisal ... R.C.	113,733	January	Ditto	97	April and May	206	52
	336	Jhalokati ... "	143,410	Ditto	Ditto	175	January to May and December.	342	97
	337	Nalchiti ... "	78,901	February	Ditto	72	March to May and Dec- ember.	239	28
	338	Backerganj ... "	135,396	January	Ditto	111	January, April and May	238	52
	339	Medhiganj ... "	145,711	Ditto	Ditto	345	January to June and December.	331	90
	340	Gournaddi ... "	184,192	Ditto	Ditto	380	January to May and December.	485	171
	341	Porozepore ... "	117,638	Ditto	Ditto	116	December	242	80
	342	Matharia ... "	96,032	March	November	216	March to May	187	92
	343	Surupkatti ... "	160,284	January	December	275	March to May and Dec- ember.	448	113
	344	Bhandaria ... "	73,352	Ditto	Ditto	129	January to May and December.	68	40
	345	Patuakhali ... "	173,801	Ditto	Ditto	254	January and March to June.	302	70
	346	Baupha ... "	95,188	Ditto	May	59	April and May	186	30
	347	Gulshakhali ... "	98,732	Ditto	December	370	January to May and December.	309	82
	348	Gulachipa ... "	59,037	Ditto	June	41	April	204	16
	349	Bhola ... "	123,160	Ditto	December	155	April, July and Decem- ber.	201	52
	350	Barhanuddi ... "	89,061	Ditto	Ditto	186	January to April and December.	207	57
		District Total	1,900,889	January	December	3,027	January, March to May and December.	4,336	1,073
Mymensingh	351	Jamalspore ... T.	16,091	April	December	21	April, November and December.	63	21
	352	Kishoreganj ... "	12,898	January	Ditto	124	January to May	49	20
	353	Attia or Tangail ... "	18,124	February	Ditto	60	March to June, August, November and Decem- ber.	25	10
	354	Nasirabad ... R.C.	282,846	January	Ditto	363	January, March, May and June.	1,213	76
	355	Ishwarganj ... "	220,152	Ditto	Ditto	377	January to May and December.	1,190	208
	356	Gafferganj ... "	117,759	Ditto	Ditto	134	January, March to May	440	69
	357	Phulpur ... "	114,467	Ditto	Ditto	408	January to July	790	36
	358	Nitrokhona ... "	471,088	Ditto	October	1,477	January to May	3,203	174
	359	Durgapore ... "	116,457	Ditto	June	578	January to June	914	39
	360	Jamalpur ... "	193,238	Ditto	December	172	January, November and December.	717	85
	361	Sherpur ... "	187,101	Ditto	Ditto	536	May to July, No vember and December.	1,016	96
	362	Dewanganj ... "	101,512	Ditto	Ditto	311	January, November and December.	267	48
	363	Kishoreganj ... "	122,705	Ditto	Ditto	328	January to May	589	50
	364	Bazirpore ... "	269,258	Ditto	Ditto	948	January to May and December.	667	112
	365	Nikli ... "	122,459	Ditto	Ditto	250	January to May	496	83
	366	Atia ... "	442,119	Ditto	Ditto	542	January and March to May.	1,523	135
	367	Copalpore ... "	217,736	Ditto	Ditto	335	January, April to June and December.	1,171	49
	368	Pragna ... "	76,262	Ditto	Ditto	201	January to June	318	66
	District Total	3,051,906	January	December	7,171	January to June and December.	14,676	1,326	
Chittagong	369	Chittagong ... T.	22,130	January	February	3	Slight	1	1
	370	Chittagong ... R. C.	53,022	.....	.....	.....	.....	25	.....
	371	Roujan ... "	144,380	.....	.....	.....	.....	124	.....
	372	Mirsara ... "	76,790	.....	.....	.....	.....	124	.....
	373	Kumra ... "	58,611	.....	.....	.....	.....	110	.....
	374	Banskhali ... "	101,768	August	August	1	Very slight	128	1
	375	Satkunye ... "	147,515	April	April	4	Do.	195	1
	376	Patikchhari ... "	104,500	June	June	5	Do.	105	1
	377	Pattich ... "	180,448	.....	.....	.....	.....	221	.....
	378	Hathazari ... "	81,830	.....	.....	.....	.....	65	.....
	379	Cox's Bazar ... "	62,817	.....	.....	.....	.....	79	.....
	380	Muskari ... "	29,188	.....	.....	.....	.....	27	.....
	381	Chakariya ... "	38,826	.....	.....	.....	.....	54	.....
	382	Teknap ... "	30,548	.....	.....	.....	.....	107	.....
		District Total	1,132,341	January	August	13	Very slight	1,363	4
Noakhali	383	Sudharam ... T.	5,124	January	December	8	January and December	5	3
	384	Sudharam ... R.C.	96,184	Ditto	Ditto	11	December	426	3
	385	Lakshmipur ... "	113,321	Ditto	Ditto	41	May	382	14
	386	Ranganj ... "	80,742	Ditto	Ditto	129	January to May	430	55
	387	Bograganj ... "	128,933	Ditto	Ditto	138	January, October and December.	610	43
	388	Barni ... "	41,731	March	March	2	Very slight	46	1
	389	Sandip ... "	72,467	January	April	2	Do.	83	31
	390	Hatia ... "	40,285	.....	.....	.....	.....	89	.....
	391	Fenny ... "	132,697	March	December	12	Very slight	413	5
	392	Chagalnia ... "	109,278	February	May	9	Do	245	2
	District Total	820,772	January	December	352	December	2,628	157	

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10	
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE—	
									Affected by Cholera.	Not affected by Cholera.
Tippur	393	Comillah ... T.	13,506	January 1886	December 1886	85	January, March, April and December.	22	17	5
	394	Brahmanberiah ... R. C.	17,543	Ditto	Ditto	205	January to April	20	17	3
	395	Comillah ... R. C.	125,879	Ditto	Ditto	435	January and March to May.	686	116	570
	396	Chandina ... "	78,521	Ditto	Ditto	143	January, April, May, November and December.	550	42	508
	397	Daudkandi ... "	143,222	Ditto	Ditto	453	January to May and December.	659	137	523
	398	Maradnagar ... "	152,122	Ditto	Ditto	304	January to April and December.	545	65	480
	399	Jogannathdighi ... "	103,218	Ditto	Ditto	64	April and May	638	18	620
	400	Laksham ... "	80,872	Ditto	Ditto	72	January, April, May and December.	654	29	625
	401	Brahmanberiah ... "	223,751	Ditto	Ditto	649	January to May and December.	595	125	470
	402	Kasba ... "	114,152	Ditto	Ditto	102	March, April and December.	424	40	378
	403	Nabinagar ... "	175,971	Ditto	Ditto	304	January to May and December.	302	72	230
	404	Chandpur ... "	112,034	Ditto	Ditto	130	January, April, May and December.	370	60	310
	405	Hajiganj ... "	472,347	Ditto	Ditto	164	January to April and December.	954	62	902
		District Total ...	1,519,338	January ...	December ...	3,260	January to May and December.	6,479	796	5,683
Patna	406	Patna ... T.	160,237	January	December	924	June to December	1	1	.....
	407	Behar ... "	48,971	March	November	28	July and August	65	16	49
	408	Dinapore ... "	52,225	February	December	177	August and November	33	20	13
	409	Barrh ... "	23,610	May	November	36	May, July to November	4	4	.....
	410	Patna ... R. C.	27,674	Ditto	Ditto	41	June and July	Not separately furnished.		
	411	Bankipur ... "	97,001	Ditto	December	136	June to November	360	30	330
	412	Bikram ... "	180,362	April	Ditto	644	June to December	671	80	585
	413	Mossoudhi ... "	120,613	June	Ditto	228	July to December	618	37	579
	414	Dinapore ... "	15,347	September	Ditto	68	September to December	90	5	87
	415	Mau ... "	98,516	June	Ditto	180	August to December	276	29	247
	416	Barrh ... "	170,589	May	Ditto	66	June	671	16	655
	417	Mokameh ... "	93,824	April	Ditto	31	November	160	6	154
	418	Fatuha ... "	88,031	June	Ditto	92	June to August	311	12	299
	419	Behar ... "	233,312	February	November	109	July and October	775	16	759
	420	Silao ... "	91,477	April	September	7	Very slight	341	5	336
	421	Attasari ... "	78,932	March	December	184	August to November	423	19	406
	422	Hilsa ... "	176,075	June	Ditto	256	June to August and October.	920	44	876
		District Total ...	1,766,856	January ...	December ...	3,205	June to December	5,619	344	5,275
Gya	423	Gya ... T	76,121	January	December	716	March, April, June to November.	1	1	.....
	424	Daudnagar ... R. C.	9,870	October	November	7	October and November	1	1	.....
	425	Gya ... R. C.	215,392	May	December	508	July to November	668	69	599
	426	Shorghati ... "	162,319	January	November	141	July, August, October and November.	769	23	746
	427	Attri ... "	78,516	July	Ditto	46	August, October and November.	362	6	356
	428	Tikari ... "	170,805	May	December	772	August to December	421	71	350
	429	Baruchati ... "	96,211	July	November	61	October and November	599	18	581
	430	Aurangabad ... "	245,429	March	December	792	August to December	837	90	747
	431	Daudnagar ... "	92,296	July	November	74	July, August and November.	267	12	255
	432	Nabinagar ... "	98,046	June	Ditto	75	October and November	499	13	486
	433	Jahanabad ... "	274,754	Ditto	December	1,035	July to December	695	268	327
	434	Arwal ... "	110,435	July	Ditto	100	August to November	230	26	204
	435	Nawada ... "	399,713	Ditto	Ditto	196	October and November	680	17	663
	436	Rajauli ... "	96,775	May	November	58	August to October	302	10	292
		District Total ...	2,124,682	January ...	December ...	4,729	July to November	6,531	625	5,906
Shahabad	437	Arrah ... T	43,446	May	November	18	September and October	11	6	5
	438	Buxar ... "	17,688	April	December	113	July to December	1	1	.....
	439	Domraon ... "	17,835	June	November	67	August to November	1	1	.....
	440	Arrah ... R. C.	241,437	Ditto	December	971	July to November	495	81	414
	441	Belauti ... "	195,879	July	November	373	July to September and November.	301	20	272
	442	Pir ... "	179,492	August	December	1,290	August to December	535	68	467
	443	Buxar ... "	145,587	April	Ditto	235	August to November	416	25	391
	444	Domraon ... "	942,103	July	Ditto	889	July to November	434	42	392
	445	Sauseram ... "	155,760	January	Ditto	129	October and November	642	16	627
	446	Khaghar ... "	104,647	August	November	356	August to November	428	17	411
	447	Dhangrain ... "	179,916	September	December	918	October to December	466	31	434
	448	Dehroa ... "	78,884	February	Ditto	173	September to December	356	21	335
	449	Bhabua ... "	171,833	April	November	179	August to October	621	17	604
	450	Mohania ... "	150,413	Ditto	Ditto	420	June to November	584	35	549
		District Total ...	1,064,909	January ...	December ...	6,140	July to December	5,420	389	5,031
Mozufferpore	451	Mozufferpore ... T	42,742	May	December	224	July to December	1	1	.....
	452	Sitamardi ... "	6,125	September	Ditto	3	September and December.	1	1	.....
	453	Hajipur ... "	25,095	February	Ditto	123	June to December	1	1	.....

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Mozufferpore— consolid.	454	Lalganj ... T	16,783	August 1886	December 1886	16	September, November and December.	1	1
	455	Mozufferpore ... R. C.	500,506	May	Ditto	248	October to December	1,117	56
	456	Patna ...	288,957	April	Ditto	153	November and December	546	32
	457	Katra ...	187,340	November	Ditto	54	December	214	11
	458	Sitamarhi ...	463,137	June	Ditto	230	November	567	27
	459	Pupri ...	222,510	July	Ditto	222	July, August and October to December.	212	13
	460	Sihur ...	146,116	November	Ditto	97	November and December.	192	8
	461	Hajipur ...	244,530	May	Ditto	154	July, October and November.	723	34
	462	Mahua ...	310,444	June	Ditto	317	August and October to December.	688	56
	463	Lalganj ...	127,070	July	Ditto	277	July and September to December.	310	57
	District Total	2,582,000	February	December	2,118	October to December	4,679	203	
Durbhanga	464	Durbhanga ... T	66,000	January	December	37	December	1	1
	465	Durbhanga ... R. C.	337,423	July	Ditto	140	November and December	879	12
	466	Roshera ...	256,605	October	Ditto	61	November	627	4
	467	Bahera ...	300,875	Ditto	Ditto	222	November and December	763	16
	468	Tajpura ...	306,433	July	November	219	September to November	463	15
	469	Dabimgera ...	279,504	August	December	70	December	397	18
	470	Nagarbusti ...	163,940	Ditto	Ditto	100	November and December	313	16
	471	Madhubani ...	211,772	January	Ditto	106	June, August, November and December.	650	23
	472	Khajauli ...	151,540	May	Ditto	173	May to July	520	13
	473	Bampali ...	273,742	Ditto	Ditto	240	June, July and October to December.	765	109
	District Total	2,633,447	January	December	1,850	June, November and December.	6,350	321	
Saran	475	Chupa ... T	53,240	June	December	92	July to December	14	14
	476	Sewan ...	13,307	May	Ditto	47	August to November	3	1
	477	Revilungo ...	12,403	June	Ditto	72	June to December	7	6
	478	Chupra ... R. C.	100,205	July	Ditto	218	July to November	507	50
	479	Majhi ...	140,722	April	Ditto	432	Ditto	233	41
	480	Mashrak ...	220,802	September	Ditto	140	October to December	270	27
	481	Paras ...	230,072	February	Ditto	252	September to December	523	43
	482	Dighwara ...	120,231	June	November	81	September and November	173	15
	483	Sewan ...	302,681	April	December	125	July	473	21
	484	Darauli ...	222,618	May	Ditto	821	August to December	552	34
	District Total	2,240,382	February	December	2,024	July to December	4,578	291	
Chumpran	488	Bettiah ... T.	21,263	November	November	1	Very slight	1	1
	489	Bettiah ... R.C.	319,072	July	December	540	August to October	1,684	28
	490	Bokaria ...	140,000	October	November	10	November	655	2
	491	Lauria ...	191,817	August	December	36	October to December	892	7
	492	Mothihari ...	176,748	June	Ditto	7	Very slight	892	7
	493	Gowindganj ...	165,062	Ditto	November	42	September and October	733	7
	494	Dhaka ...	253,092	October	December	120	October to December	777	8
	495	Kasariya ...	177,032	September	Ditto	73	November	1,052	7
	496	Adapur ...	198,990	October	November	24	Slight	532	2
	497	Madhuban ...	105,096	September	December	34	November and December.	615	5
	District Total	1,721,008	June	December	952	August, September and November.	7,766	68	
Monghy	498	Monghyr ... T.	57,520	June	December	83	September to November	63	63
	499	Jamulpore ...	13,503	March	Ditto	20	October and November	12	7
	500	Shekpara ...	12,517	October	November	.....	October	1	.....
	501	Monghyr ... R.C.	81,735	October	November	35	October and November	206	9
	502	Jamulpore ...	6,261	November	December	30	November and December.	6	1
	503	Gogri ...	365,954	Ditto	Ditto	111	November	348	11
	504	Kharakpur ...	143,030	October	Ditto	5	Very slight	317	2
	505	Suraigara ...	166,263	July	November	84	October and November	279	8
	506	Bogusera ...	370,794	May	December	135	Ditto	508	18
	507	Tokra ...	203,032	October	Ditto	83	October to December	247	10
	District Total	1,969,774	January	December	74	October and November	8,675	168	
Bhagulpore	512	Bhagulpore ... T.	57,453	January	December	263	October to December	61	44
	513	Bhagulpore ... R.C.	100,370	February	Ditto	41	October	371	12
	514	Kumerganj ...	98,427	September	Ditto	18	November	210	10
	515	Kolgong ...	192,237	Ditto	Ditto	53	lig	309	11
	516	Bihipur ...	98,403	August	Ditto	14	August	66	1
	517	Sapul ...	290,042	January	Ditto	446	June, July and October to December.	317	42

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10		
DISTRICTS.	Number of circles of mortuary registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.		
Bhagnipore— concl'd.	518	Pertabganj ... R.C.	153,272	April 1886	November 1886	25	Slight	186	4	182	
	519	Bongong ... "	144,500	Ditto	December	43	November	379	7	372	
	520	Madelipur ... "	202,678	May	June	8	Very slight	165	1	164	
	521	Kissenganj ... "	135,328	January	December	12	Do.	208	3	205	
	522	Banka ... "	134,227	April	April	4	Do.	235	2	233	
	523	Amarpore ... "	208,508	March	November	141	October and November	570	18	552	
	524	Katuria ... "	77,644	April	April	2	Very slight	95	2	93	
		District Total ...	1,966,158	January	December	1,070	October to December	3,382	137	3,225	
	Purneah	525	Purneah ... T.	15,016	July	December	11	December	1	1	...
		526	Purneah ... R.C.	138,704	November	Ditto	15	Ditto	267	2	265
527		Kusba Amour ... "	124,589	September	Ditto	60	October and November	304	11	354	
528		Dhmdaha ... "	109,501	April	Ditto	136	October to December	164	10	158	
529		Goudwarah ... "	123,946	October	Ditto	75	November and December	144	9	135	
530		Arrariah ... "	200,012	January	Ditto	1,133	March to June, November and December.	334	196	138	
531		Maliary ... "	94,115	April	Ditto	194	May, November and December.	204	11	193	
532		Raniganj ... "	107,552	Ditto	May	46	April and May	124	4	122	
533		Kissenganj ... "	154,100	June	December	330	October to December	281	20	255	
534		Bahadurganj ... "	186,142	May	Ditto	178	July and September to December.	371	141	230	
Maldah	535	Kaliaganj ... "	277,059	January	Ditto	244	November and December.	562	55	507	
	536	Katwa ... "	134,275	November	Ditto	27	December	309	4	305	
	537	Baharampore ... "	116,031	Ditto	Ditto	22	Ditto	363	5	357	
	538	Manihary ... "	51,456	Ditto	November	15	Slight	132	2	130	
		District Total ...	1,848,087	January	December	2,486	April, May and October to December.	3,625	477	3,148	
	539	English Bazar ... T.	12,430	December	December	1	Very slight	31	1	30	
	540	English Bazar ... R.C.	72,615	Ditto	Ditto	2	Do.	213	2	211	
	541	Maldah ... "	50,894	January	Ditto	6	Do.	336	6	330	
	542	Gajol ... "	54,317	March	May	2	Do.	580	2	574	
	543	Ratna ... "	80,024	January	December	72	January and December	303	23	370	
Sonthal Pergunnahs.	544	Kharba ... "	103,651	Ditto	April	14	January	541	0	532	
	545	Gomastapur ... "	52,810	March	March	1	Very slight	248	1	247	
	546	Kallachuk ... "	115,032	Ditto	December	26	December	290	12	268	
	547	Shibganj ... "	102,162	Ditto	March	1	Very slight	237	1	236	
	548	Nawabganj ... "	66,453	Ditto	July	9	May	235	3	232	
		District Total ...	710,448	January	December	134	December	3,100	60	3,040	
	549	Deoghur ... T.	8,005	March	November	46	March, April and August to November.	1	1	...	
	550	Dumka ... R.C.	363,186	November	December	38	Slight	2,909	4	2,905	
	551	Rajmudal ... "	251,825	May	July	3	Very slight	1,326	3	1,323	
	552	Pakour ... "	204,919	April	December	37	Do.	1,251	18	1,233	
Cuttack	553	Deoghur ... "	389,665	March	November	106	October	4,009	31	3,978	
	554	Godda ... "	348,433	June	December	22	Very slight	1,768	4	1,764	
		District Total ...	1,568,093	March	December	282	Very slight	11,254	61	11,193	
	555	Cuttack ... T.	43,239	January	December	50	June to August and November.	1	1	...	
	556	Kendrapara ... "	15,697	Ditto	Ditto	104	January to June, November and December.	1	1	...	
	557	Jajpur ... "	11,233	Ditto	November	42	January and March to August.	1	1	...	
	558	Cuttack ... R.C.	155,335	Ditto	December	425	January to March, July and September to December.	401	122	369	
	559	Banki ... "	56,900	February	Ditto	34	July, October and November.	141	11	130	
	560	Salipur ... "	249,979	January	Ditto	611	February and July to December.	780	126	654	
	561	Juggutsingpur ... "	215,001	Ditto	Ditto	260	July to September, November and December.	1,057	60	997	
Cuttack	562	Tirtola ... "	183,677	Ditto	Ditto	226	January, March, May, July, November and December.	1,007	46	1,051	
	563	Kendrapara ... "	175,823	Ditto	Ditto	734	January to August, November and December.	1,640	247	1,393	
	564	Patamundi ... "	109,401	Ditto	Ditto	803	January to July, November and December.	720	136	604	
	565	Aul ... "	91,015	Ditto	Ditto	799	January, March, May, June, August and October to December.	590	148	451	
	566	Jajpur ... "	239,563	Ditto	Ditto	878	January to August, November and December.	835	273	563	
	567	Dharmasala ... "	248,762	Ditto	Ditto	2,084	January to August, November and December.	1,549	551	998	
	District Total ...	1,795,065	January	December	7,140	January to August and October to December.	8,912	1,702	7,210		

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—continued.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registration as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Puri	508	Puri ... T.	24,784	January 1886 ...	December 1886 ...	623	January to August and October to December.	1	1
	509	Puri ... R.O.	197,349	Ditto ...	Ditto ...	1,270	January to August, November and December.	1,317	312
	570	Pipli ... "	226,782	Ditto ...	Ditto ...	1,006	January to April and July to December.	1,581	282
	571	Gop ... "	116,167	Ditto ...	Ditto ...	303	February to August, November and December.	953	82
	672	Khurda ... "	269,478	Ditto ...	Ditto ...	406	January, February, July, November and December.	805	118
	573	Bhanpur ... "	53,927	Ditto ...	Ditto ...	196	January to March, July to September, November and December.	509	41
		District Total ...	888,487	January ...	December ...	3,813	January, May and July December.	5,166	838
	574	Bu asoro ... T.	20,205	January ...	December ...	152	January to July and October to December.	1	1
	575	Balasoro ... R.C.	87,420	Ditto ...	Ditto ...	278	January to May, July, November and December.	590	107
	576	Soro ... "	197,508	Ditto ...	Ditto ...	552	February to May, July, November and December.	1,321	122
Balasoro	577	Jellasoro ... "	55,102	Ditto ...	Ditto ...	91	January to May, July, November and December.	423	50
	578	Baliapal ... "	88,226	Ditto ...	Ditto ...	601	January to May, November and December.	567	143
	579	Basta ... "	71,186	Ditto ...	Ditto ...	223	January to April, July, November and December.	475	75
	580	Bhadrak ... "	169,972	Ditto ...	Ditto ...	669	January to August and October to December.	1,340	160
	581	Hasundevpore ... "	71,354	Ditto ...	Ditto ...	109	January to May ...	477	50
	582	Dhamnagar ... "	132,321	Ditto ...	Ditto ...	1,288	January to August and October to December.	867	366
	583	Chandbali ... "	51,926	Ditto ...	November ...	164	January to May and July	310	33
		District Total ...	945,290	January ...	December ...	4,222	January to July, November and December.	6,303	1,113
	584	Hazaribagh ... T.	15,306	September ...	October ...	6	October ...	9	1
	585	Hazaribagh ... R.C.	87,718	October ...	November ...	22	October and November	354	3
Hazaribagh	586	Chatra ... "	64,018	October ...	October ...	27	October ...	406	3
	587	Ragodhar ... "	1,029	October ...	October ...	5	Slight ...	327	2
	588	Simoria ... "	17,904	October ...	November ...	5	Do. ...	325	2
	589	Kashmar ... "	10,437	April ...	August ...	6	Do. ...	404	2
	590	Chourparan ... "	53,593	April ...	August ...	6	Do. ...	409	2
	591	Jogeswar ... "	52,054	November ...	November ...	6	November ...	441	2
	592	Barhi ... "	56,954	May ...	May ...	5	Slight ...	277	2
	593	Huntongungo ... "	72,953	March ...	September ...	5	Do. ...	507	1
	594	Tandawa ... "	55,780	July ...	July ...	2	Very slight ...	394	2
	595	G. Jean ... "	53,375	May ...	December ...	4	Very slight ...	329	1
Lohardugga	596	Pachumbha ... "	68,097	May ...	April ...	3	Do. ...	455	2
	597	Dumurhi ... "	68,683	February ...	April ...	3	Do. ...	747	2
	598	Kharakdiha ... "	180,545	April ...	Ditto ...	8	Do. ...	656	1
	599	Kodarna ... "	73,802	May ...	May ...	1	Do. ...	1,052	1
		District Total ...	1,104,742	February ...	December ...	95	Very slight ...	650	1
	601	Ranchi ... T.	18,443	May ...	May ...	1	Very slight ...	7,704	23
	602	Ranchi ... R.C.	122,132	November ...	December ...	15	Slight ...	1	1
	603	Sili ... "	95,535	...	...	...	...	812	3
	604	Tamar ... "	67,958	...	...	...	...	353	3
	605	Lodhma or Kara ... "	56,220	...	...	...	...	678	3
Lohardugga	606	Choria or Mandar ... "	104,140	...	...	...	...	315	3
	607	Torpa or Khuteo ... "	66,253	...	...	...	...	240	2
	608	Halunat ... "	51,080	...	...	...	...	392	3
	609	Barway or Chhainpura ... "	49,078	...	...	...	...	570	3
	610	Korambe or Sasal ... "	122,923	...	...	...	...	515	3
	611	Lohardugga ... "	108,719	...	...	...	...	322	3
	612	Palkot ... "	68,061	...	...	...	...	627	3
	613	Biru or Kochadega ... "	88,234	...	...	...	...	199	3
	614	Bassia ... "	64,202	June ...	November ...	80	June and July ...	173	3
	615	Daitongungo ... "	75,899	Ditto ...	September ...	701	June to September ...	298	3
Lohardugga	616	Garwah ... "	64,300	...	...	...	...	592	16
	617	Ramkunda or Ranka ... "	36,591	July ...	August ...	25	July and August ...	206	81
	618	Chhattarpur ... "	79,655	Ditto ...	September ...	14	Slight ...	109	1
	619	Patra ... "	14,067	...	...	...	...	206	3
	620	Barasara or Mohowada ... "	102,515	June ...	November ...	249	June to September and November.	397	2
	621	Hosmenabad ... "	40,993	...	...	...	...	293	32
	622	Munkah ... "	1,609,244	May ...	December ...	1,083	June to August ...	168	1
		District Total ...	1,609,244	May ...	December ...	1,083	June to August ...	8,013	140

Statement prefixed to Map illustrating the distribution of Cholera in the Bengal Presidency during the year 1886—concluded.

1	2	3	4	5	6	7	8	9	10
DISTRICTS.	Number of circles of mortality registrations as shown on the Map.	NAMES OF CIRCLES.	Population of the circles.	Date of first case of Cholera in the circle during the year.	Date of last case of Cholera in the circle during the year.	Total deaths from Cholera in the circle during the year.	PERIOD OF MAXIMUM INTENSITY OF THE DISEASE AS REPRESENTED BY MORTALITY.	Number of villages in each of the rural circles.	NUMBER OF THOSE— Affected by Cholera. Not affected by Cholera.
Singbhum	623	Chaiabassa ... T.	6,000	...	...	...	...	1	1
	624	Chaiabassa ... R.C.	205,652	...	...	...	...	812	812
	625	Chakurdharpore ...	70,404	...	...	...	...	380	380
	626	Chakwilla ...	165,709	January 1886	October 1886	8	Very slight	1,214	1,243
	627	Khursowan ...	31,127	April	April	5	Very slight	118	118
	628	Sernakula ...	77,062	April	April	5	Very slight	568	567
		District Total ...	561,964	January	October	13	Very slight	3,123	2 3,121
Manbhum	629	Purulia ... T.	9,304	March	August	2	Slight	1	1
	630	Purulia ... R.C.	177,497	Do.	December	7	Very slight	844	839
	631	Raghunathpur ...	108,668	May	August	22	August	451	445
	632	Jhalka ...	67,133	December	December	3	Very slight	298	296
	633	Manbazar ...	68,615	February	October	8	Do.	433	441
	634	Pana ...	39,740	April	November	9	April	152	148
	635	Baghmundi ...	33,884	...	...	...	...	177	177
	636	Jaipore ...	24,258	...	...	...	...	119	119
	637	Ichaghar ...	64,242	April	April	1	Very slight	285	284
	638	Barabhum ...	153,847	October	December	23	Slight	844	840
	639	Gourandi ...	46,793	April	November	9	Do.	226	222
	640	Chas ...	89,173	March	Ditto	6	Do.	526	525
	641	Govindpore ...	39,673	September	Ditto	17	October and November	363	359
	642	Niraha ...	50,627	May	Ditto	20	November	351	326
	643	Topehanchi ...	48,013	February	Ditto	20	October	381	375
	644	Toondi ...	18,417	...	...	...	...	344	344
	645	Jharia ...	39,454	...	...	...	...	363	363
		District Total ...	1,058,228	February	December	147	Very slight	6,140	40 6,091

OFFICE OF THE SANIT. COMM. FOR BENGAL,

The 16th April 1887.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

APPENDIX No. III.



**SUMMARY OF SANITARY WORKS, IMPROVEMENTS, &c.,
CARRIED OUT IN TOWNS AND DISTRICTS, INCLUDING
PRIVATE CHARITIES,**

DURING THE YEAR 1886.

Summary of the Sanitary Works, Improvements, &c., which were carried out in the Towns and Districts of Bengal during the year 1886.

IN THE TOWNS.

In Burdwan District.—*Burdwan.*—The water-works were completed, the cost of this year amounting to Rs. 20,000. *Cutwa.*—A lane was constructed for Rs. 82. *Dainhat.*—A portion of the side drains to the sudder road was completed, and the remainder was in hand, the total cost amounting to Rs. 350; and a charitable dispensary was established. *Kulna.*—Roads, pucca and kutcha, with culverts, were constructed for Rs. 138.

In Bankura District.—*Bankura.*—One kutcha public latrine was constructed for Rs. 415; one pucca drain was constructed cost Rs. 226, and one kutcha drain was opened up for Rs. 48; two drains with culverts were constructed, and one was in progress, the former at a cost of Rs. 267 and the latter at Rs. 300. *Bishnupur.*—Roads, with culverts, cost Rs. 221, were constructed, and similar works were in progress, cost Rs. 862.

In Birbhum District.—*Suri.*—Only a kutcha drain was constructed in one of the wards to prevent it being inundated, which cost Rs. 49.

In Midnapore District.—*Midnapore.*—Three roads with four culverts, and a revetment and a pucca drain, were constructed, the former at a cost of Rs. 429 and the latter at Rs. 28; and the main khall or drain was being cleaned, cost Rs. 126. *Tumuk.*—A well was sunk for Rs. 197; and three roads for Rs. 75, a drain, two bridges and a gate for the Parbattipur sluice, at a total cost of Rs. 62, were constructed; two roads were metalled for Rs. 307; and a shed was put up for the mehters, cost Rs. 45. *Ghatal.*—The hospital for in-door patients which was washed away by the floods, and new roads were constructed, the former at a cost of Rs. 125 and the latter at Rs. 381. *Chandrakona.*—New roads were constructed for Rs. 75, and the Municipal tank was re-excavated for Rs. 520. *Ranigbanpur.*—Some new roads were completed and some were in progress, cost Rs. 113. *Khirpai.*—Nine culverts were put up, cost Rs. 51.

In Hughli District.—*Hughli and Chinsurah.*—Ten drains were excavated at a cost of Rs. 1,048; several culverts were put up which cost Rs. 1,984; three roads and three lanes were constructed for Rs. 964; roads were metalled at a cost of Rs. 211; and a ghât was provided for Rs. 196. *Serampur.*—Roads were constructed which cost Rs. 4,346; urinals set up for Rs. 87, and drainage improved at a cost of Rs. 196. Six bunded break-waters and a kutcha-pucca wall, 175 feet in extent, were constructed on the river bank, to protect the foreshore from being washed away. Several Ranigunge pipe culverts were put up with to increase the waterway and facilitate the flow of water to the Dankoni fields. Several cess-pool and filthy tanks were filled up. *Utterpara.*—A culvert was put up for Rs. 493; roads metalled for Rs. 107; and a road was being metalled, and two roads were being constructed, Rs. 30 having been expended on the former and Rs. 150 on the latter. *Bansberia.*—One permanent public latrine and six temporary ones were constructed for Rs. 159. *Baidyabatti.*—Eighteen culverts and some drainage pipes were provided for Rs. 345; land was acquired in the Champ dani bustee at an outlay of Rs. 489; three roads and two lanes were metalled for Rs. 3,274; two rooms were added to the dispensary at a cost of Rs. 744; and the metalling of one road was in progress for which Rs. 100 were paid. *Bhudressur.*—A drain was constructed which cost Rs. 232, and 19 culverts were put up at an expenditure of Rs. 793; and the construction of a culvert and the metalling of a road were in progress. *Kotrung.*—Road metal was purchased for Rs. 90; and 12 culverts were set up at a cost of Rs. 91. *Khanakool.*—Public latrines were constructed for Rs. 100.

In the Howrah District.—*Howrah.*—No original sanitary works were undertaken during the year in this important Municipality, but arrangements were in hand for providing three burial grounds for Mahomedans, by subscription, and for removing in a steam tramway outside of municipal limits the night-soil and sewage matter for the southern portion of the town. *Balla.*—Roads were metalled at a cost of Rs. 2,034 and some new roads were constructed; complete drainage scheme is under consideration; and steps were being taken to provide square or place of public resort for the people.

In 24-Pergunnahs District.—*Suburbs of Calcutta.*—Four roads and seven lanes were metalled at a cost of Rs. 5,929; improvements to drainage and roads were effected by new constructions, extensions, provision of culverts and in other ways, the former for about Rs. 5,282 and the latter for about Rs. 1,400; and a latrine was constructed which cost Rs. 5. It is reported that my suggestions regarding the improvement of the bustis and the drainage and the supply of filtered water in this Municipality were carefully considered by the Municipal Commissioners; but that no works, on an extensive scale, were carried out, as the Municipality is shortly to be amalgamated with Calcutta. *South Suburban Municipality.*—Thirteen roads and one lane were metalled for Rs. 4,013, and similar attention was being paid to five other roads, the cost amounting to Rs. 2,054. *Baranagore.*—Two roads were metalled for Rs. 1,278; improvements to drainage were effected by provision of culverts, waterway &c., which cost Rs. 447. *North Barrackpore.*—Roads were constructed and drainage was improved, the former cost Rs. 3,603 and the latter Rs. 301, and three roads were being constructed for Rs. 662. *North Dum-Dum.*—A road was metalled for Rs. 1,000. *Baraset.*

Some drains were cleaned and levelled which cost Rs. 1,232; and 10 culverts were being put up for Rs. 397. *Naihati*.—Twenty-four culverts were provided at a cost of Rs. 313 and 11 roads were metalled for Rs. 2,436; and five roads were being metalled for Rs. 1,684. *Busirhat*.—Some drainage pipes were introduced which cost Rs. 35, and a latrine was being erected for Rs. 100. *Rajpore*.—Twenty-three roads and six lanes were metalled at a cost of Rs. 1,370, and similar attention was being paid to 20 roads and 3 lanes, at an expenditure of Rs. 1,403. *Bariepur*.—Five roads were metalled for Rs. 680; a latrine was constructed in the Municipal office compound for Rs. 29; and four culverts were provided for Rs. 109, and two culverts were being put up for Rs. 82.

In Nuddea District—*Nuddea*.—Two drains and a culvert were constructed at a cost of Rs. 92, and a road was being metalled for Rs. 314. *Ranaghat*.—Conservancy and cart-sheds were completed, the balance of the cost amounting to Rs. 580. *Birnagar*.—A road was metalled for Rs. 599, and a pucca drain was constructed, which cost Rs. 63, and another road and two culverts were in course of construction, the cost of the former amounting to Rs. 59, and that of the latter Rs. 93. *Coomarkhali*.—Two pucca roads were constructed for Rs. 1,707. *Meherpur*.—Bricks for roads were purchased for Rs. 167; ditches were excavated around the burial-ground, which cost Rs. 85; and three wells were sunk at a cost of Rs. 45. *Santipore*.—Bullocks for the scavenging cart were purchased for Rs. 24; a masonry drain was constructed at a cost of Rs. 2,003; land was purchased for the Mahomedan burial-ground for Rs. 102; a charitable dispensary was constructed which cost Rs. 718; a ghât for Rs. 21 and three bathing ghâts for Rs. 62 were erected; bridges at Sonpara for Rs. 656 and a bund for Rs. 42 were constructed; three culverts were put up for Rs. 701; and three roads constructed which cost Rs. 347; and trees were being planted at a cost of Rs. 30. *Kishnaghur*.—Three masonry wells were sunk at a cost of Rs. 184, and two were being sunk which cost Rs. 600; five culverts were also being put up; seventy well-privies were filled up; and some tanks were re-excavated.

In Jessore District.—*Kotechandpur*.—Seven roads were constructed at a cost of Rs. 185; two urinals set up for Rs. 18; and three culverts provided which cost Rs. 55.—*Moheshpur*.—A pucca drain along the sudder road was constructed for Rs. 973.

In Murshidabad District.—*Berhampore*.—For the improvement of drainage a sluice and three culverts were put up at a cost of Rs. 445; the drainage channels which pass eastward to the Echa nullah were cleared out, and a shed was constructed for cholera patients for Rs. 28.—*City Murshidabad*.—Two pucca and two kutcha latrines were constructed, the former at a cost of Rs. 348 and the latter at Rs. 67; six water reservoirs were provided for Rs. 123; and a drain and two culverts were constructed for Rs. 467, and two pucca latrines, two sluice gates and a drain were under construction, the total cost amounting to Rs. 157.—*Jungipur*.—A latrine was erected outside the municipal compound for Rs. 48; two roads for Rs. 400, and a cattle shed were constructed; conservancy carts were provided at a cost of Rs. 123; and drains were cut which cost Rs. 65. *Kandi*.—A road was metalled at a cost of Rs. 659; two bridges were constructed and six culverts were put up for Rs. 172; and a lane opened out for Rs. 10; and two roads were being metalled at an expenditure of Rs. 163, and the Grish Chunder hospital was approaching completion.

In Khulna District.—*Khulna*.—The bazar and steamer ghât roads were metalled for Rs. 368; and a road was constructed in Boonapara, which cost Rs. 513. *Satkhiria*.—A road was widened by filling up the drain on its side, cost Rs. 51. *Chanduria*.—A survey and plan of the town were made for a scheme of drainage at a cost of Rs. 112.

In Dinajpur District.—*Dinajpur*.—Two public latrines were constructed at a cost of Rs. 654; and two roads were metalled for Rs. 1,639; and the drainage scheme long under contemplation has been sanctioned by Government and will be shortly undertaken.

In Rajshahye District.—*Nattore*.—A tank was excavated in one of the wards and a ghât provided for it at a cost of Rs. 3,125; and a portion of one of the roads was metalled.

In Rungpore District.—*Rungpore*.—A saucer-shaped drain was constructed for draining the northern portion of the Mahiganj bazar at a cost of Rs. 900; a kutcha drain was excavated at Nawabganj, Mahiganj and Dhap for draining accumulations of rain water in these localities which cost Rs. 300; a portion of a road was metalled for Rs. 279; and three wells were sunk at Nawabganj for Rs. 15.

In Bogra District.—*Sherpur*.—One culvert was constructed for Rs. 42; and another was in progress, cost Rs. 15.

In Pubna District.—*Pubna*.—Two plots of land were acquired for public latrines and a burial-ground, for which Rs. 691 and Rs. 11, respectively, were paid as compensation; a public latrine was constructed, which cost Rs. 469; one night-soil cart was purchased for Rs. 170; 15 wells were excavated at a cost of Rs. 1,067; and two embankments and two temporary bridges were erected over the river Ichamutty for the protection of river water, cost Rs. 779. *Serajganj*.—Eight roads were constructed in different parts and provided with wooden pipes at a cost of Rs. 476; a tank was excavated for Rs. 50; culverts and sluices were provided on the Dhaobundi and Kutcherri roads, cost Rs. 284; a temporary bridge was constructed over the Dhaobundi river for Rs. 104; six wells were sunk for Rs. 78; one pucca and three kutcha latrines were erected at a total cost of Rs. 436; and the metalling of a road was in progress at an estimated cost of Rs. 1,398.

In Darjiling District.—*Darjiling*.—Twenty-six stone, two wooden, one kutcha, and a series of saucer drains were constructed in different places in extension of, and for the improvement of the existing drainage system, at a cost of Rs. 6,204; a shed for the chowkidar at Bhutea Bazar, and another for the protection of the wire tramway machinery were

erected for Rs. 142; the water-works scheme was extended to Annandale Location, to the meat shed, and to the Goompara Bazar at a cost of Rs. 1,413; two latrines were constructed for Rs. 136; and trees were planted for Rs. 268; and the following works were in progress: two stone drains for the purpose above indicated, a bathing place in the bazar, one shed for the slaughter-house chowkidar, tanks for dhobies, a two-seated public latrine, and extension of the water-works scheme to the Hindu cremation ground. *Kurseong*.—A latrine and an urinal were constructed, the former cost Rs. 467 and the latter Rs. 149; a latrine was improved for Rs. 22, and materials for extending the water-works to the dāk bungalow, cost Rs. 477, for the head water-works Rs. 109, and for a railway, Rs. 80 were collected.

In Julpaiguri District.—*Julpaiguri*.—No original sanitary works were executed, as the Municipality has been in existence for only two years; but many minor improvements, calculated to benefit the town, were undertaken.

In Dacca District.—*Dacca*.—Nine of the abominable “gors” were filled up departmentally with street sweepings, and the filling up of seven others were in progress; several cross pipe drains were substituted for plank drains departmentally; and five roads and one lane were metalled, cost not stated. *Narainganj*.—The cess-pool west of the Eastern Bengal Railway office was filled up at a cost of Rs. 7,318; the following sheds were erected: two sheds in the Khanpore burial-ground for Rs. 370, including cost of fencing and filling up of hollows, a shed in the burning ghat for Rs. 821, sheds in the mehter lines for Rs. 497, a cholera shed for Rs. 85, and sheds near the iron latrine for Rs. 54; an iron latrine was put up for Rs. 194; a slope was prepared for the Shitalakhya bridge for Rs. 211; five roads were metalled at a cost of Rs. 2,254; kutcha road-side drains were excavated for Rs. 56; Ranigunge pipes were supplied to a road, cost Rs. 39; and a pit was filled up for Rs. 71; and a bridge at Tan bazar and two pucca surface drains were being constructed, the estimated cost of the former being Rs. 3,596 and of the latter Rs. 265.

In Faridpore District.—*Faridpore*.—Two roads were metalled at a cost of Rs. 350; and one was in progress, cost Rs. 300; and seven drains were constructed at an expenditure of Rs. 68. *Madaripur*.—A tank was excavated for Rs. 40, and a drain cost Rs. 19.

In Backergunge District.—*Barisal*.—Drainage pipes to two roads and connecting pipes between a tank and the river were provided, at a cost, respectively, of Rs. 92 and Rs. 63; and the construction of two road-side drains was progressing at a cost of Rs. 1,386. *Perozepur*.—Two wooden bridges over a khall were constructed for Rs. 60; the jetty over the Damodar was extended at a cost of Rs. 180; a khall was excavated which cost Rs. 45; a road was constructed for Rs. 42; and a public garden was being established, at an expenditure of Rs. 200. *Jhalokati*.—A road was being constructed for Rs. 103.

In Mymensing District.—*Nawrabad*.—Three pucca and two kutcha latrines were provided, the former at a cost of Rs. 1,275 and the latter, (for the kutcherries) Rs. 26; the levels of the drains were taken to secure free discharge of rain water, at a cost of Rs. 708; and a tank was re-excavated for the convenience of people residing at a distance from the river which cost Rs. 713. *Muktagacha*.—Three roads were constructed and three were metalled, the former for Rs. 101 and the latter for Rs. 1,580. *Jamalpur*.—Four roads were constructed for Rs. 154; a well was sunk for Rs. 15, and 26 bridges were erected, some of which were provided with glazed earthen pipes, at a cost of Rs. 684. *Sherpur*.—Two roads were constructed and five metalled, the former cost Rs. 196 and the latter Rs. 1,792; two drains were out, which cost Rs. 55; and 12 bridges, provided with glazed earthen pipes, were erected for Rs. 629. *Kishoreganj*.—Three roads were constructed at a cost of Rs. 566; a bridge erected for Rs. 50; a tank re-excavated for Rs. 300; and glazed earthen pipes purchased for 10 culverts for water-ways at a cost of Rs. 296. *Bazitpur*.—A tank was excavated which cost Rs. 388.

In Noakhali District.—*Noakhali or Sudharam*.—A bridge was set up for draining the western extremity of the town which cost Rs. 40, and two roads were constructed for Rs. 30; and the re-construction of a pucca drain in view to providing systematic drainage for the Bori Bazar ward was in progress at a cost of Rs. 400.

In Tipperah District.—*Comillah*.—Some of the roads were metalled at a cost of Rs. 410, and a bridge for draining off surface water was constructed for Rs. 535. *Brahmanberiah*.—Four drains and six bamboo bridges which cost Rs. 198, and ten new roads and five culverts, which cost Rs. 600, were constructed, and two tanks were excavated and turfed at a cost of Rs. 800.

In Monghyr District.—*Monghyr*.—A pucca well was sunk for Rs. 533; the municipal market was paved with stone at a cost of Rs. 752; eight culverts were put up for improving drainage which cost Rs. 218; a causeway was constructed for Rs. 79; and a road was metalled for Rs. 371. *Jamalpur*.—Three pucca wells were sunk at an expenditure of Rs. 454; one masonry corrugated iron-roofed latrine and one entirely of iron were constructed for Rs. 1,086; and three culverts were put up for Rs. 45. *Jamui*.—A tank was excavated for Rs. 65.

In Bhagulpore District.—*Bhagulpore*.—Two latrines were constructed in the hospital compound for Rs. 582; drainage improvements were carried out by putting up 12 culverts, breast wall, &c., at a cost of Rs. 366; and a road was metalled which cost Rs. 197; and four culverts were being constructed for Rs. 136; the water-supply scheme was being proceeded with; and arrangements were being made for the erection for an asylum for paupers, the destitute and the aged.

In Purneah District.—*Purneah*.—Drainage works referred to in last year's Report for carrying off stagnant water from the town were completed which cost Rs. 2,078; a corrugated iron urinal was put up near the kutcherries for Rs. 8; and a culvert was supplied to the Circular road for Rs. 995.

In Maldah District.—*English Bazar.*—Seven drains were constructed at a cost of Rs. 931. *Old Maldah.*—A road was metalled for Rs. 76, and four drains constructed for Rs. 637.

In Sonthal Pergunnahs District.—*Deoghur.*—A culvert was put up for Rs. 52; and a well was being sunk by the side of the Grand Trunk Road at a cost of Rs. 198. *Saheb-gungy.*—Two pucca latrines were provided at an expenditure of Rs. 500; a pucca drain was constructed and a culvert supplied, the former costing Rs. 858 and the latter Rs. 14; two wells were sunk in the bustis for Rs. 159; a slaughter-house with pucca floors was constructed which cost Rs. 103; a shed for a vaccination depôt was erected for Rs. 125; a road was metalled which cost Rs. 1,249, and trees were planted on the road sides at a cost of Rs. 45; and a road was being metalled for Rs. 352.

In Patna District.—*Patna City.*—A pucca drain was constructed at a cost of Rs. 277, and provision was made in the Budget for the completion of the outfall drain along the new Chowk road. *Barh.*—A culvert was put up to allow of rain water draining from one of the wards to the river which cost Rs. 24. *Behar.*—Three roads were metalled for Rs. 480; 17 culverts were put up at a cost of Rs. 436; a drain was constructed for Rs. 535 to permit of accumulated water flowing off.

In Gya District.—*Gya.*—Two public latrines were re-constructed at a cost of Rs. 365; two temporary latrines were constructed in the river bed, which cost Rs. 54; a well was sunk in the bullock shed compound for Rs. 113; ten new rubbish carts were purchased for Rs. 650; wooden traps were supplied to some of the drains at a cost of Rs. 32; two sheds, one for bullocks and the other for the domes, and a store godown were constructed at a total cost of Rs. 1,724; and a new hospital for pilgrims was being constructed at an estimated cost of Rs. 10,990. *Tikari.*—Two public latrines were being constructed at a cost of Rs. 324.

In Shahabad District.—*Arrah.*—Two urinals were put up which cost Rs. 61, and three latrines for females were being constructed. *Sasseram.*—Roads were constructed for Rs. 700 and a drain for Rs. 252; five portable latrines were provided at a cost of Rs. 70; and five sewage and some watering carts were constructed for Rs. 276; and a slaughter-house was being built which is to cost Rs. 437. *Jugdispur.*—Roads were metalled which cost Rs. 88. *Buxar.*—Roads were metalled at an expenditure of Rs. 350, and Gouri Shanker's tank was being excavated for Rs. 349. *Bhabuah.*—Three conservancy carts were provided for Rs. 100. *Dumraon.*—One pucca and some kutcha drains were in course of construction at a total cost of Rs. 550, and latrines were being erected for Rs. 100.

In Mozufferpore District.—*Mozufferpore.*—Three latrines were constructed for Rs. 783; the drainage was improved by means of pipes and drains at a cost of Rs. 61; and levels for the drainage scheme referred to in previous reports were being taken. *Hajeepur.*—Two roads were being metalled, the estimated cost being Rs. 1,559. *Lalgunge.*—A road was metalled for Rs. 307. *Sitamurhi.*—Three latrines were erected at a cost of Rs. 185.

In Durbhanga District.—*Durbhanga.*—Nine urinals were set up for Rs. 83; a drain and 10 culverts and bridges were constructed, the former costing Rs. 360 and the latter Rs. 1,210; and a slaughter-house was provided at a cost of Rs. 683. The works in progress were: the erection of ten culverts and bridges, the substitution of drainage pipes for small culverts, the metalling of a road, and the construction of four public latrines, at an expenditure, respectively, of Rs. 800, Rs. 369, Rs. 1,990 and Rs. 800. *Madhubani.*—A road was metalled at a cost of Rs. 967; eight culverts were put up for Rs. 50; six bye-lanes were opened, which cost Rs. 30; one urinal was set up for Rs. 23; a house was constructed in the market for Rs. 536; and two night soil, one scavenging, and watering carts (number not stated) were constructed, at a total cost of Rs. 122; while four urinals (Rs. 19) and four scavenging and two night-soil carts (Rs. 40) were in course of construction, and bricks for metalling the roads were being manufactured for Rs. 75.

In Sarun District.—*Chupra.*—Ten drains with two culverts were constructed for Rs. 62; five roads were metalled which cost Rs. 1,074; and rubbish, latrine, urine and watering carts (one each) were provided at a cost of Rs. 449. *Sewan.*—A pucca shallow drain on both sides of the Nayabazar road was constructed at a cost of Rs. 537, and a similar drain on both sides of the Mukdum Sorai road was in progress of construction for Rs. 200.

In Chumparan District.—*Bettiah.*—A road was metalled for Rs. 468 and another was being metalled for Rs. 240; and spill drains were provided for the wells at a cost of Rs. 86. The construction of a saucer-shaped drain was also progressing at a cost of Rs. 740. *Motihari.*—One pucca and three kutcha roads and eleven bridges were constructed—the roads cost Rs. 87 and the bridges Rs. 231; and the construction of a road and the metalling of another in the market were in progress, cost of former Rs. 200 and that of latter Rs. 450.

In Cuttack District.—*Cuttack.*—A drain with two bridges were constructed at a cost of Rs. 468; pucca shoots were provided to a drain for Rs. 60; two pucca latrines and two urinals were constructed, the former at a cost of Rs. 373 and the latter of Rs. 20; a lane was metalled for Rs. 37; one pucca and one kutcha wells were sunk for Rs. 122 and Rs. 25, respectively; a cattle-shed was erected, which cost Rs. 83; and the following works were in progress: metalling of a road at a cost of Rs. 284; constructing a pucca drain, Rs. 600; widening a road, Rs. 1,000; providing six culverts, Rs. 72; and erecting ten latrines, Rs. 100. *Kendrapara.*—Two roads were metalled for Rs. 1,315; a house for cholera patients was constructed which cost Rs. 131; and a dispensary and a bridge, blown down during the cyclone, were re-constructed for Rs. 1,051 and 422, respectively.

In Puri District.—*Puri.*—The Upper Armstrong road and roads in the civil station

were constructed, the former at a cost of Rs. 2,200 and the latter at Rs. 1,522 paid from the Government Kendrapara Fund; the foot-path on the sea beach was metalled for Rs. 593; two latrines for females were provided which cost Rs. 188; seven urinals were put up in different parts of the town for Rs. 96; a side drain near Dolebedi cost Rs. 139; the Setgunge tank was cleaned at a cost of Rs. 500; the water-supply scheme by means of wells and settling tanks was submitted to Government for sanction, after two experimental wells had been sunk at a cost of Rs. 1,322, and an enclosure was provided for the cremation ground for Rs. 370.

In Balasore District.—*Balasore*.—A slaughter house was constructed at a cost of Rs. 322, and the drainage works were being proceeded with, the expenditure incurred this year being Rs. 1,265.

In Hazaribagh District.—*Hazaribagh*.—A latrine was erected near the market for Rs. 100, and the construction of two roads was in progress for Rs. 400. *Chattra*.—Drainage works were constructed at a cost of Rs. 387, a market with a road at Rs. 453, and the Kamartoli road at Rs. 56; and the malarious swamps near the jail were converted into a lake by prison labour.

In Lohardugga District.—*Ranchi*.—No sanitary works were undertaken in this town of an original nature.

In Singbhum District.—*Ohyebassa*.—A well was sunk for Rs. 114; two galvanized iron (Hornbury's) latrines, one for males and the other for females, were put up at a cost of Rs. 629; and two roads were constructed which cost Rs. 29.

In Manbhum District.—*Purulia*.—The only sanitary work was the pitching with rubble stone some of the road-side drains at a cost of Rs. 90.

IN THE DISTRICTS.

Burdwan.—Some roads at a cost of Rs. 15,627, a masonry bridge on the Kulna-Cutwa road across the Chunari khall (Rs. 9,043), and some village roads (Rs. 13,427) were constructed by the Road Cess Department. Moreover, Rs. 6,751 were advanced to landholders and superior tenants for excavating new and clearing and deepening old and silted up tanks.

Bankura.—Ten village roads were constructed by the Road Cess Committee.

Midnapore.—Thirty-nine grampheris (embankments) were constructed and 57 turfed in different parts by the Jalamutha, Majnamutha and Bolrampur Estates, the former at a cost of Rs. 8,724 and the latter at 5,254, and a tank was excavated by the Military bazar Estate for Rs. 409. In the sub-divisions of Ghatal and Tumlook village roads were constructed. In the sub-division of Contai tanks were excavated. A road from Balichak to Sabong was in course of construction. This road is important as it will open up a part of the country hitherto accessible with difficulty. The Surpai drainage scheme, referred to in former Report, was being proceeded with, the cost of this year amounting to Rs. 42,057.

24 Pargunnahs.—The Road Cess Committee metalled the Nimta Road, constructed two large culverts on the road to Kulpi and several minor works of the same class, at a total cost of Rs. 8,220.

Nuddea.—Two relief roads were undertaken to give occupation to labourers who were in distress owing to the exceptional inundation of 1885, and four other village roads were constructed for Rs. 212.

Jessore.—Several roads were constructed, but they appear not to have been provided with sufficient drainage water-way; an important improvement was effected, viz., that the fishermen's handals, which used to obstruct the current of the river Bhyrub and thus defile its water, were removed from several parts of the river; and one tank was excavated by the Wards' Estate in Narail.

Dinajpur.—The drainage canal was cleared and a bridge erected; and a tank was excavated by the Sunkerpur Wards' Estate at a cost of Rs. 7,000.

Rajshahye.—Fifty-two new wells were sunk.

Pubna.—Two roads were constructed by the Road Cess Committee at a cost of Rs. 7,700.

Darjiling.—A road was constructed for Rs. 2,000; the Thibetan encamping-ground at Kalimpong was reclaimed, the cost for compensation to the ryots being Rs. 742; trees were planted in the Terai for Rs. 305; the Matiagurah hat was improved at a cost of Rs. 70; and a water reservoir was constructed at Rangapani in the Terai which cost Rs. 300.

Dacca.—Two village roads were constructed.

Faridpur.—Four tanks were excavated in different parts, at a cost of Rs. 636; and some village roads were constructed.

Backergunge.—Fifty-eight roads were constructed which cost Rs. 18,901; seventeen khalls were cut for Rs. 2,339; and one tank was excavated for Rs. 150, in different parts of the district, by the Road Cess Department.

Mymensing.—A railway feeder road from the Balipara station to Ramporehat was constructed and provided with sufficient water-way.

Chittagong.—In the Khas mehals in Cox's Bazar tanks were excavated and land provided for burial-grounds for villages.

Noakhali.—Two bunds of the khal along the old Lakhipur road were cut for Rs. 1,540; the Sundip road was extended which cost Rs. 817; a road was constructed on the chur of the little Fenny river for Rs. 425; the drain along the Shenbagh road was extended, which

cost Rs. 202; and nine bridges were constructed for Rs. 7,215.

Tipperah.—Twelve roads were constructed and 3 khals excavated by the Road Cess Department at a total cost of Rs. 10,530.

Bhagulpore.—A few tanks were excavated.

Maldah.—The Road Cess Department metalled roads, excavated kutchha drains, and constructed bridges at a cost, respectively, of Rs. 2,500, Rs. 1,000 and Rs. 2,200. They also completed two miles of road in thana Gomasthapur.

Sonthal Pergunnahs.—Bunds were drawn across valleys, &c. for the storage of water, and much attention was paid to forest conservancy for promoting a continued supply of water.

Patna.—The Government of India sanctioned Rs. 2,000 for the improvement of the water-supply for the cultivators who come into Behar for the weightment of their opium.

Gya.—The Road Cess Department constructed the Phulgoo and Mirhur bridges with ample water-way, and expended Rs. 2,532 in planting trees on the district roads.

Shahabad.—A road was constructed from Bhabuah police-station to Bhabuah-Mohania and provided with sufficient water-way, at a cost of Rs. 262.

Durbhanga.—Two village roads were constructed in the Madhubani Sub-division.

Sarun.—Two railway feeder roads with bridges and culverts were constructed; some important main roads were raised and metalled; side drains were provided to some bazars; several bridges and culverts were constructed; and 12 miles of roadway have been planted with trees, chiefly fruit bearing.

Chumparun.—Some roads were constructed and provided with sufficient water-way by the Road Cess Department.

Cuttack.—The excavation of the canal from Jeypore to Akhuapada was being progressed with; and a few village roads were constructed.

Puri.—A well was sunk at Baliabari hât for Rs. 45 from the Government Khas Mehal Fund; the district portion of the Upper Armstrong road was constructed for Rs. 4,598; and culverts were put up on the road from Khurda to Patrayaka which cost Rs. 5,996, paid from the District Road Fund.

Hazaribagh.—As the tank near the outpost of Beyro was condemned by the Sanitary Commissioner, a well was excavated by the Police Department for obtaining purer water, for Rs. 50; and a village road from Angura to Golalsudh was constructed by the Road Cess Department and provided with sufficient waterway.

BY PRIVATE INDIVIDUALS.

Burdwan.—A water reservoir was constructed for Rs. 300 by the Bengal Coal Company; and a tank was re-excavated for Rs. 1,000. The latter work, undertaken to meet local wants, will also supply water to pilgrims.

Midnapore.—Twenty tanks were excavated, five reclaimed, and a pucca ghât provided to a tank, in different parts of the district, at a total cost of Rs. 8,911.

Huahli.—A pucca ghât with shelter was erected at Champdani, at a cost of Rs. 600, and a metalled road from the Grand Trunk Road to the river at Bhudressur was constructed for Rs. 800.

24-Pergunnahs.—Mr. Rendell, one of the Commissioners of the Naihatti Municipality, erected two large filters at Bizipur for the supply of good water for the people. The road from Jagirhat on the Diamond Harbour road to Bowali was metalled, and a tank at Saugor Island, for the supply of water to pilgrims, was excavated, the former at a cost of Rs. 5,000 and the latter at Rs. 458.

Nuddea.—Five tanks were excavated and one re-excavated—the former cost Rs. 2,600 and the latter Rs. 3,670; and a kutchha road was provided for Rs. 240; Srimuti Rani Surnomoi of Cassimbazar paid Rs. 3,670 for the re-excavation of her tank in the Kishnaghur town; and she and Rani Tara Sundari Devi of Bhukoilas contributed Rs. 250 and Rs. 500, respectively, for the improvement of the embankment of the Nuddea town in addition to Rs. 1,116 paid by the Municipality itself.

Jessore. Khulna.—Twenty tanks were excavated in different parts of these districts—six in Jessore, at a cost of Rs. 4,200, and fourteen in Khulna, at a cost of Rs. 4,050.

Dinajpur.—Two tanks were excavated at a cost, respectively, of Rs. 5,000, and 500.

Rajshahye. Bogra.—Forty-six tanks were excavated in different parts of these districts—thirty-five in Rajshahye, at a cost of Rs. 21,716, and eleven in Bogra, for Rs. 7,982.

Pubna.—Five tanks were excavated in different parts of the district at a total cost of Rs. 4,600, and Babu Obhay Govind Chowdry defrayed the cost of a cholera hospital for the town of Pubna, which has been commenced.

Faridpore.—Babu Rajendro Chandra Rai excavated in the Faridpore town a tank at a cost of Rs. 1,500, and Moharani Surnomoi of Cassimbazar has offered to contribute Rs. 200, and Babu Kali Krishna Tagore of Calcutta, Rs. 100, for a project of water-supply for the same town. Eight tanks were excavated by others in different parts of the district, at a total cost of Rs. 6,625; and a bridge was erected over a khal for Rs. 200.

Backerganj.—Nine tanks were excavated at a cost of Rs. 2,900; a ghât was erected on the river bank for Rs. 1,000; and two roads were constructed, which cost Rs. 500.

Chittagong.—Two tanks were constructed at a cost, respectively, of Rs. 200 and Rs. 500.

Noakhali.—A few tanks were excavated near public roads and hâts, at a cost varying from Rs. 50 to Rs. 800.

Tipperah.—Six tanks were excavated in different parts of the district at a total cost of Rs. 14,550. One of these, a large one, cost Rs. 13,000, and was provided at Laksham by Babu Joshoda Chowdhuri.

Monghyr.—Three tanks were excavated at a total cost of Rs. 1,500, and a water-supply scheme was brought into use in the Jamalpore town by the East Indian Railway Company.

Purneah.—Six tanks, six wells, and a road were constructed at a total cost of Rs. 3,095.

Maldah.—Eight tanks were excavated, in different parts, of the district, at a total cost of Rs. 5,975. The Chanchal Estate, under the Court of Wards, improved the sanitary condition of many villages in thanas Khurba, Ratna and English Bazar, by undertaking drainage works for Rs. 728, excavating three tanks for Rs. 982, improving two markets for Rs. 260, constructing six roads for Rs. 1,252, and erecting a bund and providing a Dharmasala for Rs. 149.

Sonthal Pergunnahs.—Two bunds for storage of water were constructed by Mr. Grant, zemindar—one of these cost Rs. 1,000; several small tanks and bunds were constructed, and dispensaries established by others. And many trees were planted by the sides of many miles of roadway by Babu Aparava Krishna Mittra.

Patna.—A pucca well was sunk which cost Rs. 300.

Shahabad.—Eighteen pucca wells were sunk and one tank was excavated in different parts of the district—the former cost Rs. 4,520 and the latter Rs. 1,400.

Durbhanga.—Twelve tanks were excavated in different parts of the district, at a total cost of Rs. 10,000.

Sarun.—Wells and a few tanks were excavated in different parts of this district.

Chumparun.—Two tanks were excavated by the Duhlin Saheb of Bettiah at a cost of Rs. 8,000; and a few more tanks and some wells were provided by others.

Puri.—Three tanks were excavated at a cost of Rs. 500, and seven wells sunk, for Rs. 159, in Puri, Gop, Pipli and Khurda.

Hazaribagh.—A bund or embankment was constructed in Pertabpur in Konda by the Rajah of that place for Rs. 150.

Manbhum.—In the Purulia town a large well was sunk by Lala Sayamol Nund, at a cost of Rs. 700, and in the district three tanks were excavated and one re-excavated at a total cost of Rs. 880.

OFFICE OF THE SANIT. COMM. FOR BENGAL,

The 13th May 1887.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

APPENDIX No. IV.

STATEMENT SHOWING THE PERCENTAGES OF INCOME EXPENDED IN
EACH MUNICIPALITY IN BENGAL FOR ORIGINAL SANITARY
WORKS, FOR SANITARY WORKS OF AN ANNUALLY RECURRING
NATURE, AND FOR ALL MUNICIPAL EXPENDITURE PROPER.

DURING THE YEAR 1886.

Statement showing the percentages of Income expended in each Municipality in Bengal for Original Sanitary Works for Sanitary Works of an annually recurring nature, and for all Municipal Expenditure proper during the year 1886.

DISTRICTS.	MUNICIPALITIES.	Percentages on Original Sanitary Works.	Percentages on Sanitary Works of an annually recurring nature.	Percentages on all Municipal Expenditure proper.	DISTRICTS.	MUNICIPALITIES.	Percentages on Original Sanitary Works.	Percentages on Sanitary Works of an annually recurring nature.	Percentages on all Municipal Expenditure proper.
Cuttack	Kendrapara	44.63	6.72	32.10	Gya	Gya	3.90	55.15	39.10
Mymensing	Sherpore	41.12	17.03	23.07	Shahabad	Jurdishpore	3.83	43.36	26.81
Hughli	Baidyabatti	20.88	37.48	28.61	Sonthal Pergunnahs	Deoghur	3.83	41.77	19.46
Nudda	Karmarkhli	27.55	30.51	31.60	Saran	Chupra	3.36	35.22	27.55
Dacca	Naraingunge	27.15	20.47	21.74	Cuttack	Cuttack	3.03	43.30	34.78
Sonthal Pergunnahs	Shahabgunge	26.78	46.03	16.73	Ramjibunpore	Ramjibunpore	2.09	23.58	40.93
Mymensing	Kishoregunge	25.76	22.19	46.48	Bansbaria	Bansbaria	2.94	37.78	42.86
24-Pergunnahs	North Barrackpore	24.47	40.36	20.25	Setamarchi	Setamarchi	2.94	47.42	31.74
Rajahmhye	Natore	23.65	22.00	40.24	Mozufferpore	Mozufferpore	2.88	46.25	40.88
Puri	Furi	23.26	48.38	23.75	Balasore	Balasore	2.42	43.93	50.78
Mymensing	Bazilpore	22.62	40.15	24.64	Bhagulpore	Bhagulpore	2.39	53.91	26.98
Pubna	Pubna	22.13	38.80	35.94	24-Pergunnahs	Suburbs of Calcutta	2.32	52.22	36.07
Mymensing	Moaktagachee	21.87	8.43	36.10	Bankura	Bishenpore	2.15	20.47	30.61
Burdwan	Burdwan	21.12	43.06	20.04	Murshidabad	City Murshidabad	2.09	48.51	11.53
Tipperah	Brahmaueriah	19.54	54.89	13.73	Shahabad	Rahbua	2.09	36.48	42.76
24-Pergunnahs	Naihatti	19.39	37.33	21.46	Nudda	Nudda	1.90	49.14	35.73
Midnapore	Khirpai	19.07	22.25	26.41	Midnapore	Midnapore	1.81	80.30	17.43
Maldah	Old Maldah	18.91	55.54	30.23	Cuttack	Cuttack	1.55	60.11	37.49
Nudda	Santipore	18.15	46.23	31.40	Baramagore	Baramagore	1.48	59.55	30.46
Khulna	Beernagore	17.71	37.44	28.55	Kulna	Kulna	1.42	44.29	27.10
24-Pergunnahs	Khulna	17.07	44.23	30.74	Burdwan	Burdwan	1.40	58.61	35.23
Howrah	Rajpore	16.61	41.31	16.63	Murshidabad	Hazarilugh	1.17	60.50	22.80
Durbhanga	Baripore	16.44	37.45	29.08	Hazarilugh	Sudharan	1.11	50.06	16.74
Purneah	Balli	15.36	24.46	44.09	Manbhum	Purulia ... ..	.87	58.00	26.09
24-Pergunnahs	Madhubani	15.26	50.25	15.91	Faridpore	Madaripore ... ..	.86	56.30	32.54
Singbhum	Purneah	15.03	43.85	29.27	Bogra	Shorpoore ... ..	.82	47.63	42.54
Hughli and Serampore	North Dum-Dum	14.57	33.99	32.63	Khulna	Batkhiria ... ..	.78	58.91	18.27
24-Pergunnahs	Chyabassa	14.12	46.50	22.63	Rackorgunge	Barisal ... ..	.73	60.94	12.25
Mymensing	Bhuddessur	13.83	31.69	51.70	Birbhum	Noor ... ..	.65	46.23	15.09
Midnapore	South Suburban	13.07	55.12	22.73	Nudda	Kishnachur ... ..	.65	72.28	19.23
Mymensing	Nussirabad	13.09	65.97	17.77	24-Pergunnahs	Busrchal ... ..	.48	46.61	43.64
Hazarilugh	Chanderkona	13.07	38.06	31.70	Shahabad	Arrah ... ..	.38	61.02	14.66
Midnapore	Jamalpoore	12.09	33.83	36.72	Patna	Barh ... ..	.38	50.23	27.45
Murshidabad	Chaitra	12.09	45.23	22.93	Burdwan	Patna ... ..	.24	70.00	20.50
Bankura	Tumlook	12.18	47.05	36.13	Bankura	Ranigunge ... ..	.00	51.78	21.75
Durjiling	Kandi	11.30	54.78	27.67	Howrah	Assensole ... ..	.00	50.08	28.54
Shahabad	Bankura	11.26	41.24	30.61	Bankura	Sonamukhi ... ..	.00	11.38	34.37
Pubna	Kursong	10.27	23.37	9.34	Howrah	Howrah ... ..	.00	50.08	28.54
Maldah	Buxar	9.84	67.21	21.30	Joynagore	Faki ... ..	.00	34.08	20.61
Mozufferpore	Serajunge	9.82	54.05	23.79	South Barrackpore	South Barrackpore ... ..	.00	49.58	34.53
Midnapore	English Hazar	9.79	65.02	32.18	Baduria	Baduria ... ..	.00	71.06	20.23
Murshidabad	Lakung	9.18	17.59	40.66	Gobardanga	Gobardanga ... ..	.00	59.07	37.10
Bankura	Dinaipur	8.99	63.40	19.70	South Dum-Dum	South Dum-Dum ... ..	.00	46.27	46.15
Durjiling	Ghatat	8.74	51.81	38.62	Debhatta	Debhatta ... ..	.00	31.44	18.99
24-Pergunnahs	Barasat	8.33	34.10	26.42	Kustia	Kustia ... ..	.00	54.50	27.24
Patna	Rehr	8.24	47.66	23.08	Jessore	Jessore ... ..	.00	58.61	18.43
Hughli and Serampore	Hushli	8.21	55.77	31.15	Rampore Baulsah	Rampore Baulsah ... ..	.00	60.03	24.61
Monghyr	Jamalpoore	8.13	55.58	10.57	Hogra	Hogra ... ..	.00	38.00	51.83
Shahabad	Sasseram	7.81	34.41	24.67	Julpaiguri	Julpaiguri ... ..	.00	44.93	17.43
Rangpore	Rungpore	7.71	36.12	25.30	Dacca	Dacca ... ..	.00	79.65	13.68
Nudda	Meherpore	7.70	29.33	41.90	Goulundo	Goulundo ... ..	.00	48.03	42.40
Backergunge	Perozepore	7.41	61.67	30.55	Shalacoti	Shalacoti ... ..	.00	25.71	17.5
Darjiling	Darjiling	7.26	50.48	27.00	Nulchitti	Nulchitti ... ..	.00	47.23	45.73
Nudda	Ranghat	7.18	52.79	30.10	Chittagong	Chittagong ... ..	.00	60.71	38.42
Durbhanga	Ranghat	6.75	42.79	31.63	Cox's Hazar	Cox's Hazar ... ..	.00	42.00	45.67
Hughli and Serampore	Serampore	6.62	49.23	30.69	Daudnagore	Daudnagore ... ..	.00	58.54	16.81
Murshidabad	Jehanabad	6.34	39.73	35.63	Tukaree	Tukaree ... ..	.00	21.59	13.53
Saran	Jungipore	6.22	48.30	34.71	Doomraon	Doomraon ... ..	.00	58.35	30.90
Burdwan	Sawan	6.01	31.50	38.07	Hajipore	Hajipore ... ..	.00	58.35	30.81
Jessore	Dainhat	5.66	39.20	28.20	Tajpur	Tajpur ... ..	.00	37.40	44.43
Chumparun	Kotechandpore	5.39	30.07	39.58	Revilgunge	Revilgunge ... ..	.00	32.14	56.50
Hughli and Serampore	Bottiah	5.20	63.79	17.10	Colgong	Colgong ... ..	.00	32.55	26.50
Faridpore	Utterpara	5.02	30.68	33.69	Tajpore	Tajpore ... ..	.00	41.80	55.61
Monghyr	Faridpore	4.90	43.39	28.01	Puri Lodging House	Puri Lodging House ... ..	.00	22.03	17.28
Hughli and Serampore	Monghyr	4.46	57.67	29.55	Ranchi	Ranchi ... ..	.00	51.91	34.13
Khulna	Kotrung	4.43	45.73	31.64					
Monghyr	Chunduriah	4.37	18.28	35.27					
Tipperah	Jazni	4.16	11.09	55.32					
	Comillah	4.12	50.09	38.61					
TOTAL FOR THE PROVINCE ...							5.55	51.07	28.89

OFFICE OF THE SANY. COMM. FOR BENGAL, }

The 28th April 1887.

R. LIDDERDALE, M. D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

APPENDIX No. V.

**ABSTRACTS OF INSPECTION REPORTS ON TOWNS
VISITED IN 1886.**

Abstracts of Inspection Reports on Towns visited in 1886.

Burdwan Town.—*Inspected in January 1886.*—I went round the town generally with Dr. O'Brien, the Civil Surgeon, and found that many improvements had been effected since last inspection, the chief among which was the completion of the filtered water-supply scheme. The sanitation of the town could not, however, be pronounced to be satisfactory: the grand nuisance of filthy tanks and holes had to be grappled with, and certain localities as are comprised within the wards D and E were in a very insanitary condition. The drainage was very defective, and required much improvement, and the need for increasing the supply of filtered water was strongly indicated. I was, however, glad to see that the Commissioners were manifesting great interest in the sanitary welfare of the place.

The suggestions were—(1) To continue to allot year after year a respectable share of the municipal income towards placing all parts of the town on a thoroughly sound sanitary footing. (2) To take opportunities on the occasion of fires, &c., to widen the narrow lanes. (3) To renew the fencing of many of the tanks on road-sides. (4) To increase, as funds permit, the length of mileage of the roads lighted. (5) To strictly enforce section 236 of the Municipal Act, and gradually do away with grass, &c., as roofing materials. (6) To undertake at once a survey of the town for ascertaining the levels according to which drains can be made, and provide gradually an efficient system of drainage, some progress being made every year. (7) To construct only shallow drains and divert them from emptying into tanks and hollows, and make provision for connecting the house drains with the roadside drains. (8) To take early steps for increasing the filtered water-supply and extending it to the whole town. (9) To devise other means, besides using street-sweepings to fill them up, to lessen the great evil of the large number of foul tanks and holes; to connect the tanks with one another by an open channel, the lowest one either having a communication towards the Banka or to some other discharge outlet. (10) To re-excavate some of the better tanks, and employ the earth taken out to fill in the smaller holes around. To persevere in gradually obliterating all filthy pits and tanks. (11) To fill up the tank behind the Maharajah's palace in the manner recommended by me. (12) To see that the conservancy establishment is properly supervised, and to require the overseers to take the full amount of work from the establishment placed under their charge. (13) To have all the lanes and by-paths swept daily, and the sweepings regularly removed and fully utilised in filling up hollows and useless tanks. (14) To use wheel-barrows for the proper conservancy of the narrow lanes. (15) To provide barrel-carts for the removal of fluid kitchen refuse to the trenching ground for disposal. (16) To supply the municipal bullock shed with hydrant water for the use of the bullocks, and to consider the advisability of putting up a tap in every bullock shed in order that the sheds and drains might be easily cleaned out. (17) To provide more public latrines at convenient places, and reserve some of them and two or three of the existing ones for the exclusive use of females. (18) To have the gumlahs, the drains, and the walls of the public latrines up to three feet from the floor tarred at least twice a month. (19) To introduce and properly carry out the dry-earth system in all the public latrines during the cold and hot seasons, even if impracticable in the rains. (20) To take steps to put down promiscuous defecation, and to require the police, under section 365 of the Municipal Act, to discharge this part of their duty more actively than heretofore, and systematically bring up offenders under the municipal laws for punishment. (21) To put up urinals in the crowded portions of the town, particularly near the bazars. (22) To look out for some sites for trenching purposes convenient to the more distant latrines. (23) To take early steps for introducing Part IX of the Municipal Act. (24) To require the owners of the private markets to provide these places with filtered water-service, and to see that their conservancy is properly attended to and the drains kept free and effective. (25) To lay on hydrant water to the meat-markets at Peerbaharam and Ranigunge. (26) To establish a municipal slaughter-house on a small scale provided with a water-supply and other conveniences, and to prohibit the killing of cattle at any other place. Also to have a proper place of their own instead of the Kalisthans which are very filthy, charge fees for its use, and allow no killing of goats anywhere else within the municipality. (27) To have the old burial ground for the Mahomedans planted with trees, and to abandon the Kerbala burial-ground, as the river water is likely to be contaminated. (28) To see that the graves are dug sufficiently deep to allow of the *chupper* being at least four feet from the surface of the ground. (29) To fully utilise the provisions of the compulsory Vaccination Act, particularly its penal clauses, and to place the town in a thorough state of protection. (30) To take registration into their own hands and relieve the police of this part of their duty, and with greater attention to the subject to obtain greater accuracy in results.

Action taken on the suggestions.—It was reported—(1) That the Secretary will be directed to see that the overseers take the full amount of work from the conservancy establishment placed under their charge. (2) That all the lanes and by-paths are being swept daily and the sweepings used in filling in useless hollows. (3) That the suggestion regarding the provision of barrel-carts for the removal of the fluid kitchen-refuse to the trenching ground for disposal will be attended to along with the question of general scheme of drainage improvement of the town. (4) That as the supply of filtered water is not adequate for the requirements of the residents of the town, the Commissioners with justice cannot connect their bull-sheds with

the water pipes until all the house connection applications have been complied with ; besides a big tank within the bull-shed enclosures was re-excavated last year, and its water is clean enough for use of the bullocks, and the bulls have not been found to suffer in health by using the tank water. (5) That the remaining suggestions will be carried out when funds will allow.

Soory Town.—*Inspected in January 1886.*—The sanitary arrangements of this town were not satisfactory. The drainage and the conservancy arrangements were very defective and in some instances objectionable, and the water-supply was insufficient in quantity and of the very worst quality. The whole place is riddled with pits and hollows full of foul water, constituting a standing menace to the public health. On the date of my visit there were, however, evidences to show that the Commissioners were trying to remedy some of the defects.

The suggestions were—(1) To take immediate steps to prevent the diminution of the income in future. (2) To devote year after year the greater portion of the amount which has become available by the municipality having been relieved of police charges, as well as a fair share of its remaining income, for rectifying the many grave sanitary defects which yet exist. (3) To fully utilise the sections of Part VI of the Municipal Act which relate to building regulations. (4) To bring into force a code of bye-laws framed under the above-named Act. (5) To make persevering endeavours to have all the pits and hollows gradually filled up, and to employ for the purpose the spare earth which becomes available when new tanks are dug or old ones re-excavated. (6) To strictly enforce section 232 of the Municipal Act, and prevent the making of excavations for the purpose of taking earth, &c., therefrom or of storing rubbish or other offensive matter therein. (7) To provide all masonry structures over drains with man-holes at every 6 or 8 feet at the expense of the owners, and to permit no new erections except what are sufficient for entrance to and exit from houses and shops. (8) To gradually improve the drainage, parts being dealt with as funds permit, and to try to better the condition of the house drains. (9) To keep the area of supply of the kutcherry tank scrupulously clean. (10) To revolutionise the water-supply of the town and devote for the purpose as much of the funds as possible. (11) To induce the rich owners of some of the tanks to have them re-excavated, protected from pollution, and set apart for drinking. (12) To sink more wells at suitable places, reserve them exclusively for drinking, and provide them with pumps or buckets and chains with pulleys for raising water ; also to have the wells sunk deep to get to the water-bearing stratum. (13) To adequately strengthen the conservancy establishment and to increase the number of carts. (14) To provide wheel-barrows for the conservancy of the narrow lanes. (15) To judiciously employ street-sweepings, &c., in filling up filthy holes and ponds situated well away from dwelling-houses taking up only so many of the pits at a time as can be dealt with within a short space of time. (16) To require the people to bring out all house refuse and deposit it on the roadside at a stated hour for removal by the conservancy carts. (17) Not to permit the accumulation of cow and cattle ordure within compounds of houses, and to see that it is either converted into cakes for fuel or deposited in the fields as manure. (18) To construct a few more public latrines at convenient places, and to exclusively reserve some of them for the use of females. (19) To provide houses for the mothers near the latrines. (20) To properly carry out the dry-earth system during the cold and hot seasons at least. (21) To make persevering endeavours to put down promiscuous defecation, and to require the police, under section 365 of the Municipal Act, to discharge this part of their duty more satisfactorily than they have hitherto done. (22) To take early steps to fully utilise, after their introduction, the salutary provisions of Part IX of the above-named Act. (23) Not to allow the night-soil from the private privies to be thrown on the surface to dry up, but to have it trenched in the grounds specially set apart for the purpose. Also to warn the private mothers against disposing of it otherwise. (24) To cultivate the trenching grounds. (25) To consider the advisability of providing suitable stalls for the sale of meat, and making arrangements for the regular removal of the bones, &c. (26) To fully make use of the Compulsory Vaccination Act, particularly its penal clauses, and to place the town in a state of thorough protection. (27) To try to the utmost to place registration on a satisfactory footing. (28) To require the overseer, the tax collectors, &c., to detect and report for punishment all omissions of the provisions of the compulsory law ; also to have the persons charged with the duty of reporting births and deaths punished, under section 6 of the Compulsory Registration Act, whenever they omit to report the events.

Action taken on the suggestions.—(1) It was agreed to issue a notice, under section 232 of the Municipal Act, in regard to digging holes, &c. (2) The sinking of two more wells has been agreed upon. (3) For the better supervision of the sweepers, provision has been made in the budget for an additional peon, as also for the construction of huts for the sweepers near the latrines. (4) As regards private privies, a sub-committee has been appointed to report on the feasibility of the municipality taking the management of private privies in Rati mohullah and Khattah mohullah.

Berhampore Town.—*Inspected in January 1886.*—I was glad to see improvement since I last visited the town, and evidence of interest taken in sanitary matters by the Commissioners. The health status of the place was on the whole, no doubt, better than formerly, but could not be regarded as satisfactory. There were still many serious sanitary defects, notably under the head of drainage, calling for early rectification, and parts of the town, particularly the localities round the Bistupur *bheel*, were in a very insanitary state. There are, moreover, innumerable filthy pits and excavations seething with decaying vegetation, which must tend to affect health very injuriously.

The suggestions were—(1) To devote annually a larger proportion than 6·23 per cent. of the income for rectifying the grave sanitary defects that yet exist and placing all parts of the town on a sound sanitary footing. (2) To take early steps to bring into operation Part IX of the Municipal Act. (3) To see that the narrow lanes are not turned into repositories of filth of the neighbourhood, and not to lose opportunities on the occasion of fires, &c., to widen them. (4) To connect as many of the numerous holes and pits as possible with one another, and ultimately with the channel which is now being excavated from the Khagra sluice to drain the Bistupur *bheel*. (5) To consider the advisability of requiring the owners of some of the smaller holes to have them filled up with sand from the river bed in the dry season. (6) To make sustained efforts to fill up all filthy holes and excavations, and to employ for the purpose street sweepings and the solid refuse from houses when the holes are at some distance from the dwelling-houses, limiting, however, the operation to only so many of these at a time as can be dealt with within a short period. (7) Not to permit brick-making within the limits of the municipality. (8) To undertake and gradually complete an efficient system of surface drainage, making, however, some progress every year and attending to the badly-drained portions of the town first. (9) To carry out, as funds permit, the scheme drawn up by the Executive Engineer, Mr. P. B. Roberts, for improving the condition of the Bistupur *bheel*, one part being done one year, and the other the next, till a perfect system is complete. (10) To regularly supervise and empty the cess-pools inside the houses in which house sewage is collected, and not to allow it and cook-room fluids to sink into the soil or simply evaporate on the premises. (11) To require the owners of foul tanks to maintain them in proper order or have them filled up. (12) To supply the municipal wells with buckets and chains with pulleys for raising water, and prohibit the dipping of private vessels into them. (13) To put a stop to the practice of using the banks of the river for purposes of nature. Also to move the Magistrate to call the attention of the police, under section 365 of the Municipal Act, to this part of their duty. (14) To sufficiently strengthen the conservancy establishment and to increase the number of carts. (15) To provide barrel-carts for the removal of the fluid house and kitchen refuse to the trenching ground for disposal. (16) To provide more public latrines at convenient places, and set apart one or two of them and a few of the existing ones for the exclusive use of females. (17) To have the latrines intended for females attended to by methranis only. (18) To properly carry out the dry-earth system in all the public latrines during the cold and hot seasons, if found impracticable in the rains. (19) To make persevering endeavours to put down promiscuous defecation. (20) To see whether the trenching coolies are deficient in number or not, and to make arrangements for cultivating the trenching grounds. (21) To require the owner of the new market to provide it with proper pathways and means of drainage, and those of the other two markets to improve the drainage and take steps generally for bettering the condition of the places. (22) To enquire carefully whether any of the graveyards are crowded or not, and if any of them should be found overcrowded, to close them at once, prohibit further interments in them, and plant the grounds with trees. (23) To fully make use of the Compulsory Vaccination Act, particularly of its penal provisions. (24) To fully utilise the provisions of the Compulsory Registration Act. (25) To introduce the system of registering births, keep separate records of the events, and regularly furnish this office with returns along with the mortuary statements. Also to induce the midwives to give information of all births at which they attend.

Action taken on the suggestions —(1) The conservancy establishment has been strengthened and the number of carts increased. (2) Arrangements have been made for providing at least two barrel-carts for removing fluid house and kitchen refuse. (3) Public latrines have been set apart for the separate use of males and females respectively, and the dry-earth system is being properly carried out. (4) Steps have been taken to prevent promiscuous defecation. (5) The trenching grounds are being cultivated. (6) The owners of the two private markets, the drainage of which is defective, have been requested to rectify the defect and generally improve the condition of these places. (7) The Khagra sluice channel has been repaired under the supervision of the Executive Engineer at a cost of about Rs. 200. (8) Filthy pits and holes are now being filled up with street sweepings and the solid refuse from houses.

City Murshedabad Municipality—Inspected in January 1886.—The sanitary condition of this town had much advanced since last inspection and the Commissioners seemed greatly interested in improving it. Many improvements were found to have been effected under the several heads of sanitation, but much had yet to be done to place the town on a satisfactory sanitary footing. The drainage arrangements were defective, and those relating to the interment of the dead were very unsatisfactory and in some cases objectionable, and numerous filthy pits and hollows had still to be dealt with.

The suggestions were—(1) To take steps generally to guard against the recurrence of the falling off in the revenue. (2) To devote annually a fair and legitimate share of the income for rectifying the sanitary defects which yet exist and placing the town on a thoroughly sound sanitary footing. (3) To consider carefully the questions of metalling a certain length of the kutcha roads every year and of gradually increasing the length of mileage lighted. (4) To fill in as soon as possible the deep holes at the sides of the new road from Mohimapur to Baluchur with street sweepings. (5) To consider the expediency of setting apart a small portion of the income for filling in every year some of the filthy hollows and excavations, using mud from the river bed in the dry season. (6) To prohibit the making of excavations for the purpose of taking earth, &c., therefrom, or of storing rubbish or other

offensive matter therein. (7) To carry on the Baluchur section of the drainage scheme before long; also to divert the drains as far as practicable from the tanks, and to make arrangements for connecting all house-drains with public drains. (8) To substitute in the crowded localities pucca shallow saucer-shaped side-drains for the deep kutchas. (9) To have the pucca drains regularly flushed and the accumulation of filth in them removed, and to permit no sludgy collections near homes, nor in street drains or under culverts. (10) To supply the wells reserved for drinking with pumps or buckets and chains with pulleys for raising water, and to prohibit the indiscriminate dipping of vessels into them. (11) To provide barrel-carts for the removal of fluid house refuse to the trenching grounds for disposal. (12) To have the rubbish, which was found accumulated in the part of Azimgunge, south of the railway, removed and utilised in filling up foul pits and holes. (13) To set apart three or four of the existing public latrines for the exclusive use of females, and to have them attended to by methranis only. (14) To provide all the kutchas privies with plinths pucca throughout. (15) To close all the sundasses, and require their owners to construct surface privies in their stead. (16) To put up at convenient places a few urinals made of corrugated iron. (17) To make persevering endeavours to put down promiscuous defecation. (18) To bring into force Part IX of the Municipal Act on an early date. (19) To cultivate the trenching ground with maize, jute, &c., during the rains, and with English vegetables and mustard, &c., during the winter. (20) To require the owners of the private markets besides that of Azimgunge to gradually provide their respective ones with pucca drains and floors. (21) To consider the advisability of establishing a Municipal slaughter-house with proper drainage, water supply, and other conveniences, and to prohibit the killing of cattle at any other place. Also not to allow any but healthy cattle to be killed for food consumption. (22) To establish beyond the limits of the municipality one or two public burial grounds for the Mahomedans, another for the Boistobs, and to strictly prohibit burials within house enclosures. (23) To have the graves in the new grounds to be provided dug in lines with fixed spaces between each grave and each row of graves. (24) To see that in the case of the Mahomedans the bodies are buried at a sufficient depth to allow of the *chupper* being placed at least 4 feet below the surface of the ground. (25) To close the graveyard at Jaffergunge, prohibit further interments in it, and plant the ground with trees. (26) To try to obtain accuracy in registration with continued attention to the subject.

Action taken on the suggestions:—(1) A sub-committee has been appointed to give effect as far as possible to the suggestions. (2) The Baluchur drainage works have been taken in hand and are in progress. (3) Rubbish accumulated in Azimgunge to the south of the railway has been removed. (4) Almost all the kutchas latrines have been provided with pucca plinths. (5) Latrines have been exclusively set apart for females, and these are being attended to by methranis only. (6) Sundasses have been prohibited, and none are reported to be in existence. (7) Strenuous endeavours are being made to put down promiscuous defecation. (8) A new burial ground is being opened.

English Bazar Town.—*Inspected in January 1886.*—This town was in a bad condition, generally unclean, with rubbish near houses, and pucca drains insufficiently attended to, and studded with foul pits and water-holes. The arrangements under the heads of drainage, conservancy, and disposal of the dead were very defective, and portions of the town, such as Mirarchack, Hyderpur, and Sakoparah, were in a very insanitary state. On the whole, this town required very urgent attention at the hands of the Commissioners.

The suggestions were:—(1) To take steps to prevent the recurrence of the diminution of income. (2) To devote annually the greater portion of the amount, over Rs. 2,000, which now accrues to the municipality by its having been relieved of police charges, together with an equitable share of the remaining income for improving the sanitation of the town. Also to divert some of the money given to schools to more urgent needs. (3) To gradually metal the kutchas roads, a certain length of them being taken up every year. (4) To properly attend to the conservancy of the narrow lanes, and to take opportunity on the occasion of fires, &c., to widen them. (5) To strictly enforce section 232 of the Municipal Act, and put a stop to the making of further excavations. (6) To make persevering endeavours to fill up all pits and hollows, and fully utilize for this purpose street sweepings and the solid refuse from houses when the pits are at a distance from dwelling places, limiting, however, the operation to only so many of them as can be dealt with within a short space of time. (7) To keep the existing drains quite free and effective, and to gradually improve their levels. Also not to allow the pucca drains to be blocked with rubbish and other offensive matter. (8) To require the owners of private tanks to maintain them in proper order or have them filled up. (9) To have such of the tanks as are worth preserving dewatered and cleaned out by their owners. (10) To keep in view the necessity of setting aside yearly a certain part of the municipal revenue to fill in offensive tanks with earth from the river bed. (11) To erect masonry parapets and platforms around the mouths of the wells which are used for drinking purposes, and to have their tops covered with wooden *jaffries*. (12) To stop at once the practice of resorting to the bank of the river for defecation. (13) To have the conservancy establishment adequately strengthened and the number of carts increased. (14) To provide wheel-barrows for the conservancy of the narrow lanes. (15) To require the people to bring out all house-rubbish, &c., and deposit them at the stated hour on the roadside for removal by the conservancy carts. (16) To have the accumulation of rubbish near houses and in pucca drains removed and advantageously employed in filling up foul pits and excavations. (17) To gradually introduce the iron latrines called Hornbury's patent and sold by Messrs. Burn & Company of Calcutta. (18) To have the gumlahs used in the existing latrines

tarred at least twice a month. (19) To properly carry out the dry-earth system in the public latrines during the cold and hot weather. (20) To endeavour to put down promiscuous defecation. (21) To induce those who can afford the cost of construction to provide for themselves surface privies which can be cleaned easily. (22) To take some action to find out and suppress the well privies, their owners being required to build privies on an approved plan. (23) To establish one or two trenching grounds at some convenient place, and have the night-soil from all the public and private privies carried there for disposal. Also to conduct the trenching system properly. (24) To immediately stop the present reprehensible mode of disposing of night-soil from the private privies, and pending the opening of the trenching grounds recommended to allow the private owners to bury night-soil in the holes which receive the contents of the public privies. (25) To introduce Part IX of the Municipal Act on an early date. (26) To require the owners of the private markets to provide them with good drains and proper path-ways, and take steps generally to improve their condition. (27) To prohibit at once interments within house enclosures. (28) To establish a public graveyard at some convenient place beyond the limits of the Municipality, and have the bodies buried in it in regular lines with fixed distances between each grave and each row of graves. Also to have the graves dug sufficiently deep, so that the *chupper* may be at least four feet below the surface of the ground. (29) To fully utilise the provisions of the Compulsory Registration Act, and adopt measures generally to secure accuracy in registration.

Action taken on the suggestions.—(1) The suggestions regarding the allotment of an equitable share of the income for improving the sanitation of the town, and the diversion of some of the money given to schools to more urgent needs, will be taken into consideration at the time of the preparation of the budget estimate for 1877-78. (2) The existing kutcha roads will be gradually metalled as funds permit. (3) Pits and hollows are being gradually filled up with street sweepings, &c (4) The drains are now being kept in proper order, and free from obstacles, and the conservancy establishment has been strictly warned to see to the cleanliness of the drains. (5) Proper steps are being taken for keeping the private tanks clean, and provision will be made in the next budget for filling in some of those that are offensive. (6) Defecation on the bank of the river has been prohibited. (7) The public has been informed by beat of drum to bring out and deposit on the roadside all house rubbish between the hours of 1 A.M. and 8 A.M. for removal by the conservancy carts. (8) Steps have been taken to have the lanes and by-paths cleaned twice a week. (9) Two iron latrines with one seat have been indented for from Bankipore. (10) The gumlaks used in the latrines are being tarred twice a month. (11) The dry-earth system is being carried out in the public latrines. (12) Those who can afford the cost of construction are being induced to provide proper surface privies for themselves. (13) Steps are being taken to improve the condition of the private market. (14) Endeavours are being made for establishing a public graveyard. (15) The registration work is being properly carried on.

Sahebgunge Town.—*Inspected in January 1886.*—The sanitary arrangements of this Municipality were in several respects satisfactory. Many improvements were found to have been effected since it was last visited, the chief among them being the extension of the pucca drains, and the introduction and utilization of the provisions contained in Part IX of the Municipal Act. In fact it was evident that the Commissioners were taking great interest in the sanitary welfare of the town. There were, however, still many defects which required early attention.

The suggestions were—(1) To continue to allot every year a fair share of the municipal income for placing all parts of the town on a sound sanitary footing. (2) To strictly enforce, after Part VI of the Act comes into operation, those sections of it which relate to building regulations. (3) To provide as soon as possible one or two pucca wells in Dosadpara, allow no more pits to be dug there, and deal with the drainage of the busti as funds permit. (4) To construct a good road through Coolyparah, care being taken to open out the crowded portion of the busti. (5) To divert the system of pucca drains to be extended from emptying into tanks, and to allow none but the drain from the European quarter to discharge into the series of tanks running north and south through the native town. (6) To require the head clerk of the Traffic Department to demolish the large platform he has erected over the municipal drain, and provide himself in its stead with a suitable entrance to his house. (7) To have the municipal tank re-excavated, properly protected from pollution, and set apart for drinking. (8) To undertake the gradual obliteration of the filthy private tanks, and to provide a central channel through the series of large tanks running north and south banked up on each side, and have the hollows left outside the banks filled in with river-mud and sand as funds permit. (9) To have the wells sunk deep to get to the water-bearing stratum. (10) To at once stop the practice of resorting to the banks of the river for defecation. (11) To sufficiently strengthen the conservancy establishment. (12) To construct more public latrines at convenient places and reserve a few of them for the exclusive use of females. Also to introduce the corrugated iron latrines called Hornbury's patent and sold by Messrs. Burn and Company of Calcutta. (13) To have the latrines for females attended to by methranis only. (14) To have the receptacles, the drains, and the walls of the public latrines up to three feet from the floor tarred twice a month. (15) To keep the public latrines scrupulously clean and sweet. (16) With the gradual increase in public latrine accommodation to make persevering endeavours to put down promiscuous defecation. (17) To require the owners of such of the private privies as are badly constructed to provide themselves with properly

constructed surface privies. (18) To establish trenching grounds at the outskirt of the town, carry on the trenching system properly, and have the grounds cultivated. (19) To provide the slaughter-house proposed to be constructed with proper drainage, water-supply, and other conveniences, and to keep it scrupulously clean and tidy. Also to prohibit, after it is established, the killing of cattle at any other place. (20) To strictly enforce burials in the Mahomedan cemetery being in regular lines with fixed distances between each grave and each row of graves. (21) To fully utilise the Compulsory Vaccination Act, particularly the penal provisions of it. Also to take steps to gratify in future the wishes of the people in respect to their being vaccinated by persons known to them. (22) To take early steps to bring the Compulsory Registration Act into operation, and place registration on a satisfactory footing.

Action taken on the suggestions.—(1) The Coolypara-road, 2,100 feet long, has been metalled with soling of stone and surface of kunker. (2) The Institute road is being metalled with kunker, and more kunker is being collected for metalling other roads. (3) Provision will be made in the next year's budget for making one or two pucca wells in Dosadpara. (4) The old pits in the above busti are being filled up, and the creation of new ones has been prohibited. (5) The Coolypara is being kept clean, and one or two cross lanes will be opened through it. (6) Since the inspection of the town, 935 feet of pucca drain has been constructed and more will be provided as funds permit. (7) Small cess-pools and tanks are being filled up. (8) The cess-pool connected with the latrine near the plunge bath will be altered as soon as practicable. (9) Three more methranis have been engaged for cleaning private latrines. (10) Two five-seated latrines—one for males and the other for females—have been provided. (11) The receptacles, drains, and the walls of the public latrines are being regularly tarred. (12) The night-soil is being buried in shallow trenches. (13) As more public latrines are opened, steps will be taken to stop promiscuous defecation. (14) A new slaughter-house has been built at the foot of the hill, and the killing of cattle elsewhere has been prohibited. (15) The Mahomedans have been made to bury in regular lines. (16) The Compulsory Vaccination Act is being properly worked, and the people are gradually beginning to appreciate vaccination. (17) Births and deaths are now being registered.

Old Maldah Town.—*Inspected in January 1886.*—This town was found in a very bad state. Excepting the improvement in the central road, called the Survery road, nothing had been done to improve its sanitation since it was last inspected two years before. It was full of jungle and of deep hollows, out of which the roads and building sites had been raised. The drainage was very defective, and the conservancy arrangements totally incommensurate with the needs of the town. Properly speaking, there was no conservancy in Maldah. The arrangements under the head of disposal of the dead were also very unsatisfactory. All these tended to make the place very unhealthy. The Commissioners did not appear to take such active interest in the sanitary welfare of the town as could be desired. The poverty of the Municipality had, however, much to do with the wretched state of things described above.

The suggestions were—(1) To devote annually a fair share of the municipal revenue towards improving the sanitary condition of the town. (2) To consider the advisability of raising the taxes and of devising other means for increasing the income of the Municipality. (3) To take immediate steps to introduce Parts VI and IX of the Municipal Act. (4) To bring into operation a code of bye-laws framed under the above-named enactment. (5) To properly attend to the conservancy of the narrow roads. (6) To try to introduce river water into the deep hollows and excavations about the town. (7) To require owners and occupiers of houses to keep their premises free from thick and noxious vegetation. (8) To direct their efforts for the present to keeping the drainage channels clear and free to act, and gradually improving their levels. (9) To prohibit further excavations in the drains for the purpose of taking earth, as well as throwing of rubbish into them. (10) To set apart the Babakkar tank for supply of drinking water only. (11) To induce the rich owners of some of the other tanks to have them re-dug, properly protected from pollution, and reserved solely for drinking and domestic purposes. Also to gradually fill up the filthy private tanks. (12) To at once prevent defecation on the banks of the river. (13) To adequately strengthen the conservancy establishment, and increase the number of carts. (14) To require the people to bring out all house rubbish at a stated hour, and deposit it on the roadsides for removal by the conservancy carts. (15) To use street sweepings and the solid refuse from houses for filling in holes when they are at a distance from the houses, and not cast them here and there as convenient to the sweepers. (16) Not to allow cowdung, &c., to be accumulated within compounds of houses, but to have them either converted into cakes for fuel or deposited in the fields outside the town. (17) To construct some public latrines at convenient places, and set apart one or two of them for the exclusive use of females. (18) With the gradual provision of public latrine accommodation to make endeavours to put down promiscuous defecation. (19) To import sweepers to work Part IX of the Municipal Act. (20) To have all interments carried on beyond the limits of the Municipality, establish a graveyard for the purpose at the outskirt of the town well away from inhabited quarters, and strictly prohibit burials at any other place. (21) To see that bodies are buried in the above ground in regular lines with fixed spaces between each grave and each row of graves. Also to have the graves dug sufficiently deep to allow of the *chupper* being placed at least 4 feet below the surface of the ground and not 2½ feet as at present. (22) To forbid the practice of allowing the clothes, pillows, &c., of the deceased to be taken away by the domes, and to have these in future burnt along with the bodies. (23) To take steps for introducing

the Compulsory Vaccination Act. (24) To fully utilise the provisions of the Compulsory Registration Act, and place registration on a satisfactory footing. (25) To require the tax-collectors to detect and report for punishment all evasions of the requirements of the above-named enactment.

Action taken on the suggestions.—(1) Much of the jungle within municipal limits has been cleared. (2) The Mokatipur road has been metalled. (3) Many other roads have been repaired. (4) About 610 feet of pucca and over 3,000 feet of kutcha side-drains have been constructed along various roads.

Purneah Town.—*Inspected in January 1886.*—Several improvements were observed to have been effected since the town was last inspected, but the sanitary arrangements were not yet satisfactory. There were many defects, particularly under the heads of water-supply and conservancy, which called for early attention. The town was moreover full of pits and hollows containing foul water, which must tend to affect health injuriously. The Commissioners, however, were not unmindful of the sanitary concerns of the place.

The suggestions were—(1) To devote annually a larger proportion than 8·77 per cent. of the income to rectify the many sanitary defects which yet exist. (2) To introduce at an early date Parts VI and IX of the Municipal Act, if they are not already in force. (3) To fully utilise those sections of Part VI which relate to building regulations and prevent the irregular laying out and construction of houses. (4) To make persevering endeavours to fill up pits and hollows with street-sweepings, &c., when they are at a distance from the houses. Also to consider the advisability of setting apart a small portion of the municipal income for filling in every year some of the filthy holes and excavations with mud and sand from the river bed in the dry season. (5) Not to allow the drainage channels to get more blocked up with water-plants, and to have a few of them regularly cleaned every year. (6) To prohibit the erection of fishing weirs in drainage channels. (7) To construct pucca shallow saucer-shaped side-drains in crowded localities, and make provision for connecting the house drains with them. (8) To set apart the Police tank, which is properly protected from pollution, for drinking only, and strictly prohibit bathing in it. (9) To require the owners of filthy tanks to maintain them in proper order. (10) To see that the protective brickwork round the mouths of the reserved wells is kept in good repair, and to have the ground around them properly sloped so as to allow the spill-water to run to the nearest drain. (11) To adequately strengthen the conservancy establishment, and to increase the number of carts and bullocks. (12) To provide wheel-barrow for the conservancy of the narrow lanes and by-paths. (13) To require the people to bring out all house rubbish, &c., and deposit them on the roadside at the appointed time for removal by the conservancy carts. (14) To have the accumulation of rubbish at places removed at the cost of the owners, and utilised in filling up filthy pits and hollows. (15) To have all the streets swept daily, and the lanes and by-paths twice a week. (16) To set apart one or two of the existing public latrines for the exclusive use of females. (17) To have the latrines for females attended to by methranis only. (18) To make every endeavour to put down promiscuous defecation, and to require the police, under section 365 of the Municipal Act, to discharge this part of their duty more satisfactorily than heretofore. (19) To establish one or two trenching grounds beyond the limits of the Municipality, and to try to acquire cultivable land, if possible, for the purpose. Also to have all night-soil from both the public and private privies removed to these grounds for burial, and to strictly warn the private methers against disposing of it otherwise. (20) To carry on the trenching system properly, the trenches being dug in lines about one foot deep and one foot wide, and only 6 inches of night-soil put into them, the remainder being filled with earth. (21) To have the bodies buried in the graveyards not at random, but in lines with fixed distances between each grave and each row of graves, and to see that in the case of the Mahomedans the graves are dug sufficiently deep, so that the *chupper* may be placed at least four feet below the surface of the ground and not one foot as at present. (22) To deal very cautiously with the question of permitting burials within enclosures of houses, and to generally refuse such permission. (23) To take steps to gradually reduce the number of private graveyards with a view to their extinction. (24) To have the old Christian burial ground near Line Bazar, which has been closed, planted with trees. (25) To have the clothes, pillows, &c., of the deceased burned along with the bodies. (26) To see that after the registration work is taken over from the hands of the police, better results are obtained.

Action taken on the suggestions.—It was reported (1) That more money was being allotted for sanitary improvements. (2) That steps had been taken to improve the Chandney Chowk. (3) That pits and hollows were being filled up, and the weeds and plants from the water-channels cleared.

Bhagulpore Town.—*Inspected in January 1886.*—I inspected this town with the Chairman and the Civil Surgeon, and saw the new drainage-works at Shoojagunge, a good many latrines, several trenching grounds, the slaughter-house, and a Mahomedan burial-ground &c., &c., also the beginning of the new water-works under the care of the Public Works Department. Many improvements were seen to have been effected since the town was last visited, but there were yet many serious sanitary defects. The Commissioners, however, appeared to be fully alive to the wants of the town, and were evincing great interest in its sanitary welfare.

The suggestions were—(1) To devote annually a larger proportion than 9·10 per cent. of the income to rectify the sanitary defects that still exist and place all parts of the town on

a sound sanitary footing. (2) To strictly enforce the sections of Part VI of the Municipal Act, which relate to building regulations, and prevent the crowding together of huts without proper provision for ventilation or passages between them for admitting conservancy carts. (3) To make persevering endeavours to fill up holes with street-sweepings, &c., when they are at a distance from the homesteads. (4) To consider the advisability of annually setting apart a small portion of the municipal revenue for filling in filthy holes and excavations with mud and sand from the bed of the river during the dry season. (5) To strictly apply section 232 of the Municipal Act and prevent the making of excavations for the purpose of taking earth therefrom. (6) Not to permit brick-making within the limits of the Municipality. (7) To let house water from baths and kitchens pass into the pucca drains wherever they are complete. (8) To continue to provide pucca drains throughout Soojagunge and other crowded localities. (9) To spare no means by which money can be obtained by going to Government or getting a loan on any reasonable terms, and complete the water-works before many months are over. (10) To have all the principal streets swept daily and the lanes and by-paths at least twice a week, and the sweepings regularly removed by the conservancy carts. (11) To provide wheel-barrows for the proper conservancy of the narrow lanes. (12) To increase the number of carts for the removal of fluid refuse from houses, and to properly supervise the cleaning of the vats into which the refuse is collected until such time as the refuse can be discharged into pucca drains. (13) To gradually replace the mat latrines by properly constructed pucca structures, or to supply them with pucca plinths, or to get the iron ones called Hornbury's patent and sold by Messrs Burn & Company of Calcutta. (14) To have the gumlahs, the drains, and the walls of the public latrines up to three feet from the floor tarred twice a month. (15) To put up public urinals in the crowded thoroughfares. (16) To make endeavours to put down promiscuous defecation, specially among ruined houses or enclosures in inhabited places. (17) To extend Part IX of the Municipal Act to the whole town. (18) To carry out the trenching system properly, the trenches being dug in lines one foot deep and one foot wide, and to cultivate the parts of the ground which are well manured. (19) To require the owner of the market in mohulla Mojaipore to pave the floor of the whole place instead of that of detached portions of it. (20) After the water-works are completed to lay on hydrant water to the municipal slaughter-houses. (21) To prohibit further interments in the public graveyard at Moolla Chuck, to establish another burial ground near it, and to have the former planted with trees. (22) To have the bodies buried deep, the vault being placed at least four feet below the surface of the ground. (23) To at once stop the practice of throwing partially cremated bodies into the river, insist upon complete cremation in every case, and require the peon and the mohurir who are respectively attached to the burning ghâts to see to this. (24) To have the clothes, &c., of the dead burnt along with the body in every case, and prevent the domes from taking these away and offering them for sale in the bazar. (25) Not to permit any longer the casting of the Hindu pauper dead into the river uncremated, but to have them either burned or buried at the cost of the Municipality. (26) To fully utilise the provisions of the Compulsory Vaccination Act in all particulars, and to ask the Civil Surgeon, who is also Superintendent of Vaccination, to exercise the full powers given him by the Act. (27) To specially appoint a man to detect all evasions of the requirements of the Compulsory Registration Act and systematically bring up the offenders for punishment, and watch the cases whilst pending in courts of justice. (28) To require the tax-collectors and the overseers to report births and deaths as a check on voluntary registration and the police reports. (29) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions.—A few of the suggestions have been adopted, and steps are being taken to give effect to some of the others.

Monghyr Town.—*Inspected in January 1886.*—With the exception of strengthening the conservancy establishment and introducing Part IX of the Municipal Act, no other steps appeared to have been taken since last inspection to improve the sanitation of the town. The drainage arrangements were very bad, and the supply of water for drinking and other domestic purposes not quite sufficient for the requirements of the whole town. There were also many other sanitary defects which demanded early attention.

The suggestions were—(1) To more actively look after the sanitation of this important town and make a more liberal allotment than only 2·42 per cent. of the income to rectify the defects that yet exist. (2) To bring into operation Part X of the Municipal Act. (3) To have the sanitary clauses of the law administered with the desired activity and closeness. (4) To pay serious attention towards dealing with the large number of encroachments upon roads and drains. (5) To raise a loan or utilise a portion of the amount which has been realised by the sale of certain landed property, and quickly carry out drainage—or after the careful preparation of a scheme, to take it up year by year in parts, and thus have the town gradually drained. (6) To prosecute persons putting rubbish in drains. (7) To try to improve the condition of the house drains. (8) To have the mouths of the public wells properly protected from pollution, supply the wells with pumps or buckets and chains with pulleys for raising water, and prohibit the dipping of private vessels into them. (9) As far as practicable, to put a stop to the practice of throwing corpses and carcasses into the river. (10) To further strengthen the conservancy establishment and increase the number of carts. (11) To see that the overseers actively supervise the staff under their orders, and to have the amount of work which each man has to perform defined, and that work taken from him in full. (12) To require the people to bring out at the stated hour all house-rubbish and put it on the roadside for removal by the conservancy carts. (12) To have the drains

included in surface cleansing and kept permanently clean. (14) To provide wheel-barrows for the conservancy of the narrow lanes. (15) To provide more barrel-carts for the removal of fluid house and kitchen refuse to the trenching grounds for disposal. (16) To keep the public latrines and their surroundings scrupulously clean and sweet. (17) To make persevering endeavours to put down promiscuous defecation. Also to require the police, under section 365 of the Municipal Act, to discharge their duty in this respect more actively than heretofore. (18) To extend Part IX of the Municipal Act to the whole town, and have its provisions carefully and actively administered. (19) To require the farmer of the municipal market to keep it properly clean and tidy. (20) To consider the expediency of erecting a shelter at the burning ghât for persons bringing bodies for cremation, and of appointing a contractor who would engage to keep a stock of fuel in hand at the ghât for sale for fixed prices. (21) To have the corpses of prisoners and Hindu paupers cremated at the cost of the Municipality, and not cast into the river as at present, and to require the domes in charge of the burning ground to see that in every other case the bodies are completely cremated. (22) To more fully and carefully utilise the provisions of the Compulsory Registration Act. (23) To ask the registrar to go round the various wards, alternately, visiting them for the purpose of detecting evasions of the provisions of the above law. (24) To require the tax-collectors and the overseers to report births and deaths as a check on the police reports and voluntary registration. (25) To induce the midwives to give information of all births which they attend. (26) To have the persons appointed to report births and deaths punished under section 6 of the Compulsory Registration Act, whenever they fail to do so.

Action taken on the suggestions.—(1) Two additional carts with the usual complement of methers, viz., two for each cart, will be employed for removing street-sweepings. (2) Wheel-barrows will be provided for cleaning lanes inaccessible to carts. (3) Six barrel-carts have been purchased, and they are in use. (4) Steps have been taken to keep the surroundings of the public latrines clean, and the attention of the District Superintendent of Police has been drawn to the subject of putting down promiscuous defecation. (5) The edges of the well mouths will be raised to prevent spill water falling back into the well.

Jamalpur Town—*Inspected in January 1886.*—Although several improvements were seen to have been effected since the town was last visited, its sanitation was far from being satisfactory. There were many special conditions of the town injuriously affecting health, such as dirty excavations, bad drainage, foul cess-pools, bad water, &c. Almost all the busties were in a very insanitary state, and decaying vegetation was very great in them. Nothing had been done by the Commissioners to improve the condition of the outlying village of Rampore, which appeared to have been only included within the town for purposes of taxation. I was, however, glad to notice that the Commissioners were aware of the wants of the town, and were trying to gradually remove them.

The suggestions were—(1) To expend annually a much larger share than only 6·38 per cent. of the income for rectifying the grave sanitary defects that yet exist and placing this important town on a sound sanitary footing. (2) To get the contribution from the Railway Company considerably increased. (3) To fully utilise the sections of Part VI of the Municipal Act, which relate to building regulations, and prevent the crowding together of huts without proper drainage or facilities for scavengering. (4) To strictly enforce section 232 of the above Act, and finally put a stop to the making of further excavations. (5) To make persevering endeavours to gradually fill up all the pits and hollows, and to consider the advisability of converting some of the larger excavations into tanks, and of utilising the earth which would then be available for filling in some of the smaller holes around. (6) To construct a good pucca road through the village of Doka, care being taken to open out the crowded portions of it; also to adopt measures generally for improving the sanitary condition of all the busties. (7) To improve the levels of the two nullahs in Jehangira which carry off hill water. (8) To prevent in future the construction of platforms over drains, and to generally refuse permission to build such structures. (9) To have the town properly surveyed, to ascertain the levels according to which drains can be constructed, and to undertake an efficient system of drainage, and carry out the project gradually. (10) To have, as far as practicable, the kutchra deep side-drains converted into pucca shallow saucer-shaped ones. (11) To see that the private house drains have pucca connections with the public drains wherever the latter are pucca. (12) To prevent the drainage of the public latrine in the European quarter from finding its way into the municipal tank when floods come down from the water-fall. (13) To have the public wells sunk deep to get to the water-bearing stratum, and to keep their surroundings scrupulously clean. (14) To provide the public wells with buckets and chains with pulleys for raising water, and prohibit the dipping of private vessels into them. (15) To provide wheel-barrows for the proper conservancy of the narrow lanes. (16) Not to employ street sweepings, &c., in filling up excavations and hollows unless they are at a good distance from the houses. (17) To require the owners of cow and cattle sheds to keep them in proper order. (18) In providing latrines in future, to have those intended for females quite apart from the male latrines being situated in different enclosures with different approaches. (19) To have the latrines for females attended to by methranis only. (20) To make persevering endeavours to put down promiscuous defecation. (21) To have Part IX of the Municipal Act brought into operation and properly worked. (22) To close as soon as possible the private burial-grounds for the Mahomedans as well as that for the other races, and to plant them with rapidly-growing trees. (23) To see that bodies are buried in the new grounds in lines previously drawn, with fixed intervals between each grave and each row of graves. (24) In the case of the Mahomedans, to cause the graves to be dug

sufficiently deep to allow of the *chupper* being placed at least four feet, and not one foot as at present, below the ground surface. (25) To put a stop to the practice of throwing the Hindu and Mahomedan pauper, &c., dead into the hill stream called Dakra nullah, and to have the bodies either cremated or buried at municipal expense. (26) To provide the cooly lines with an ample supply of water, and to construct a latrine near the dépôts; also to have these places efficiently surface-drained, and to properly look after their conservancy. (27) To fully utilise the provisions of the Compulsory Vaccination Act. (28) To have the Compulsory Registration Act efficiently worked, specially with reference to its penal clauses. (29) To require the municipal servants, such as tax-collectors, overseers, &c., to report births and deaths as a check on the police reports and voluntary registration. (30) To require the registrar specially appointed for the purpose to go round some of the wards daily to detect all evasions of the provisions of the compulsory law. (31) To try to induce all midwives to report the births which they attend.

Action taken on the suggestions.—It was reported—(1) That measures were being taken to strictly enforce the building regulations, to deal with encroachments and platforms over drains, and to prevent the making of excavations. (2) That a pucca well and a kutchra road had been constructed in village Rampore, and that a pucca well in village Keshabpore had been repaired. (3) The practice of using street-sweepings and rubbish for filling up excavations had been discontinued in the case of the pits situated close to the houses. (4) That a public graveyard for the Mahomedans had been provided, and the private ones closed. (5) Steps were being taken to keep the cooly dépôt in good condition. (6) That the suggestions relating to birth and death registration had been adopted.

Patna Town.—*Inspected in January 1886.*—I went round with the Vice-Chairman and found that the sanitary arrangements of this important and densely-populated place were deplorably bad. In fact, many grave insanitary conditions, which were noticed during my former visit about two years ago, were still observable. The drainage was exceedingly defective: wherever I went I found drains blocked—not one was in action but was choked here and there with rubbish and dried up sludge, impounding house sewage which could only disappear partly by evaporation and partly by infiltration. Indeed, the drainage of the town was most sadly neglected. The arrangements under the head of conservancy were as bad as possible, and those regarding the disposal of the dead very unsatisfactory and objectionable. The water-supply of the place, as far as it was derived from wells, could not be considered pure owing to the general defilement of the surface. Offensive and dangerous trades were being carried on with impunity within municipal limits, and the Commissioners seemed almost powerless to check the evils arising therefrom in consequence of the action of the Honorary Magistrates, who often rejected prosecutions or inflicted only nominal fines on the offenders, and whose opinion with regard to sanitary rulings, in a legal point of view, was often in direct conflict with that of the municipal executive. The executive administration of the Municipality was also unsatisfactory. A grave mistake has been made by removing all executive authority from the hands of the Chairman and Vice-Chairman and vesting it in the hands of Chairmen of the Ward Committees—an unfortunate step, giving rise to a great division of authority which can only result in failure to promote the sanitary welfare of the town. All these things bore evidence of a state of affairs which reflected great discredit on municipal self-government.

The suggestions were—(1) To consider the advisability of raising the taxes to a legitimate extent; of adopting a equitable system of valuation of holdings in place of the haphazard system now in force; of having the sections of the Municipal Act under which fees can be levied worked with profit on a graduated instead of the present uniform scale, which presses heavily on the poor license-holders, while the wealthy do not feel the impost; of requiring the owners of hackney carriages to pay higher taxes than the present rates which were fixed a long time ago; and of introducing the old system of voluntary payment under which the taxes were more readily realised, in place of the present plan of realising the taxes which does not allow of sufficient time for the tax-collectors to readily reach the rate-payers, and which permits of distress warrants being issued when they cannot pay. (2) To have the bye-laws at present in operation remodelled, revised, and added to so as to be in agreement with the present Municipal Act. (3) To consider the expediency of metalling the roads with Burrakur hill stone instead of Luckeeserai kunker, of considerably curtailing the expenditure on widening lanes, and of providing side-drains to the streets where there are none, as well as more culverts and bridges across the roads. (4) To strictly enforce the sections of the law relating to excavations. (5) In the construction of future dwellings, and when fires necessitate reconstruction, to enforce the provisions of the law on the subject. (6) For the protection of the town from the floods of the Ganges and the Poonpoo, to construct sluices at the upper entrances of the Ganges water and a protective embankment all round, utilising for this purpose the roads to the north and along a part of the southern edge of the town; but before giving effect to the above, to secure the advice of a skilled engineer of the Public Works Department. (7) To improve the condition of the defective culvert in the Chowk, the floor of which is very high. (8) To have the main outfall drain passing Chokshikarpore police-station at once made pucca up to the south side of the railway. (9) To lose no time in drawing up a thorough and proper drainage scheme for the town, and have it carried out from the beginning by experienced engineers. (10) Pending the above, to keep the outfall drains in as complete a state of cleanliness as is possible, and to allow no rubbish to be cast into them. Also, in cleaning out the drains, not to allow the earth to be thrown on their edges, as it is washed back into

them in the wet season. (11) Wherever pucca drains are constructed to compel house-holders to connect their house drains with the public drains. (12) To have the conservancy establishment efficiently supervised, and to adopt some method and system in obtaining work from the men. Also to introduce the energetic European element into the establishment in the shape of at least two inspectors. (13) To consider the advisability of purchasing more bullocks instead of hiring them. (14) To try to reduce the number of carts and bullocks by properly apportioning them to specified parts of the town. (15) To have the streets swept daily, and the by-streets and lanes every alternate day, but to have the solid house refuse from the latter removed daily, hand or wheel-barrow being employed for the purpose. (16) In dealing with hollows to take care to fill up only a certain number of them at a time, and when the process has been completed with regard to them, to take up others. (17) To require the police to check the commission of nuisances as far as practicable. (18) Pending the provision of good drains, to have the cess-pools in which fluid house refuse is collected emptied oftener than at present. (19) To provide more public latrines at convenient places, particularly near the police-lines, markets, and the serais, and in doing this to adopt Hornbury's patent iron latrines sold by Messrs. Burn and Company of Calcutta. (20) To take steps, after an adequate number of public latrines has been provided, for entirely suppressing promiscuous defecation. (21) To enquire whether Ramsay's portable latrines are objected to by the people owing to their dirtiness, if at all. (22) To move the police authorities to provide all the police-stations throughout the town with properly-constructed latrines. Also to request the Magistrate to provide one for his kutcherry in place of the present improperly-kept miserable structure. (23) To take immediate steps to suppress the sundasses or well privies. (24) To induce the people to provide their privies with two gumlahs, one for feces and the other for urine and washings. Also to stop the use of bits of gumlahs and tiles and other disgusting substitutes for the purpose. (25) To try to the utmost, either personally or through a strong executive, to carry out the provisions of the house-scamenging scheme, and to consult some of the municipalities, particularly Howrah and Burdwan, as to the *modus operandi* observed by them. (26) To at once stop the pitching of night-soil into holes in different parts of the town or pitting it near latrines; and if it is necessary to dispose of it within the town, to have it surface trenched only in fields frequently cultivated. Also to induce the cultivators to make over their lands for shallow trenching; and in connection with the above suggestions, which bear on agriculture, to take action so that Government might appoint Mr. Allen, the officer in charge of the Agricultural Department, to be a member of the municipality. (27) Never to pit night-soil within the limits of the Municipality. (28) To consider the desirableness of utilising the *deera* of the Ganges for the burial of night-soil during the cold and dry season in the manner explained by me. (29) To at once stop the improper disposal of the night-soil from the mohullahs near the asylum, and to acquire land for the purpose of trenching the night-soil. (30) To take steps to ensure the complete removal and proper disposal of all night-soil from the private privies. (31) To have the cattle-sheds drained and paved with stone or brick cemented, and kept in a clean condition, the ordure and urine being removed out of town. (32) To do the best to provide a properly-constructed municipal market as well as a slaughter-house. (33) To see that the compounders or dispensers in the European medicine shops are certificated, and that the drugs in the shops are not worthless and highly adulterated. (34) To enforce the provisions of the law and check the carrying out of objectionable trades within municipal limits, particularly the manufacture of bricks and pottery. (35) Not to allow milkmen and private owners of cattle to keep within municipal limits a much larger number of them than is authorised by law. (36) To request the Magistrate to prohibit the practice of throwing corpses into the river beyond the limits of the Municipality. (37) To have the tank near the Bankipore thannah properly protected from pollution from a foul ditch near it, and to see that the flood water of the Ganges or Poonpoo is not introduced into the tank called Mangles' talao through the main sewers of the city, the sewage of which enters into the tank along with the river water. (38) To take up seriously and urgently the question of providing proper burial-grounds for the Mahomedans, and establish one or two general graveyards sufficiently large for the requirements of the town and situated in convenient localities. (39) To close the existing burial-grounds, and point out to the Mahomedan community the evils of promiscuous, careless and uncared-for interments within house precincts. (40) To call upon such of the Mahomedan community who can afford the expense to subscribe towards the establishment of the cemeteries. (41) To stop the pernicious and barbarous practice of throwing the Hindu and Mahomedan pauper dead, as well as uncremated and partially cremated bodies, into the river. (42) To curtail the staff of vaccinators, which appears to be unnecessarily large, and to retain four vaccinators throughout the year, one for each vaccine station. (43) To no longer allow the Compulsory Vaccination Act to remain a dead letter at Patna, but to fully utilise its provisions. (44) To strictly enforce the provisions of the Compulsory Registration Act, particularly its penal clauses, and to make sustained efforts to place registration on a satisfactory footing.

Action taken on the suggestions—(1) Steps are being taken to increase the municipal revenue by adopting an equitable system of valuation of holdings in place of the haphazard system now in force. (2) A scheme is being prepared for levying license fees on a graduated scale instead of the fixed rate of one rupee. (3) A sub-committee has been appointed to revise the bye-laws with a view to make them agree with the present Municipal Act. (4) Burrakur hill stone is being used in metalling the main roads, and either Harawli

kunkar or Lakhiserai stone in the case of the by-streets. (5) Steps have been taken to enforce the building regulations and to prevent the drains being built over. (6) The Executive and the District Engineers have been asked to give their opinion on the question of providing an embankment all round the town to protect it from the floods of the Ganges and the Poonpoo. (7) The drain alongside the new Chowk road has been cleaned, and endeavours will be made to make the outfall pucca throughout up to the railway. (8) The block in the drainage at Firlahore has been removed, and also all the drains in the town have been cleaned and are still being cleaned, and the Conservancy Jemadars have been made responsible for their future cleanliness. (9) The main streets are being swept daily and the lanes every alternate day, and the sweepings are being used in filling up pits and hollows. Also the making of new excavations have been prohibited, and a list of the existing ones is being prepared. (10) Provisions have been made in the next year's budget for increasing the number of public latrines, and steps have been taken for introducing the iron structures of Hornbury's pattern. (11) The latrines attached to the Magistrate's court, the College and the police-station are being kept clean. (12) The construction of new sundasses has been prohibited, and steps are being taken to suppress the existing ones. (13) With reference to the suggestion regarding the house-scavenging scheme, the Chairmen of the Howrah and Burdwan Municipalities have been written to as regards the *modus operandi* observed by them. (14) The suggestions regarding the cattle-sheds are being carried out. (15) Provision has been made in the next year's budget for the erection of six slaughter-houses, one in each ward. (16) Enquiries are being made whether the compounders in all the European medicine shops are certificate holders or not. (17) The Ward Committees have been asked to prepare lists of burial-grounds in the several wards, and to report on their condition.

Gya Town.—*Inspected in January 1886.*—Since last visit there had been some improvement in conservancy arrangements under the present supervisor, but nothing adequate had been done to place this important town on a proper sanitary footing. The drainage was extremely defective. I observed that the drains had been extensively built over, and that new structures were being put up with great rapidity, and that there was universal blocking of drains. The drinking water-supply was of the worst description, and the arrangements under the heads of conservancy and disposal of the dead were still far from being satisfactory. Upon the whole, Gya was in a very bad sanitary state, and it is not surprising that cholera is never absent from it. In fact it is a common belief, not without many facts in its favor, that the town is a great distributing centre of cholera, and that many pilgrims fall victims to the disease when resident in it.

The suggestions were—(1) To make more than ordinary efforts to improve the sanitary condition of this great centre of pilgrimage. (2) To consider the advisability, or rather the necessity, of slightly raising the taxes, and devising other means for increasing the municipal revenue. (3) To fully utilise the sections of Part VI of the Municipal Act which refers to building regulations, and have the crowding together of huts without proper drainage or facilities for scavenging prevented. (4) To have the sanitary clauses of the above-named Act administered with the desired activity and closeness. (5) To promptly attend to such defects in the drains as blocking with rubbish, accumulation of foul stinking slush, &c. (6) To allow all house drains to discharge into the public drains. (7) To gradually convert the existing kutchra deep side-drains into pucca shallow saucer-shaped ones. (8) To strictly enforce section 232 of the Municipal Act, and put a stop to the making of further excavations. (9) To set apart every year a small portion of the municipal revenue for filling up some of the hollows with mud and sand from the river bed. (10) To make the Khawa ditch a permanent central channel and maintain it in proper order. (11) To have the main outlet to the Phalgu at Nadragunge, which I examined, made pucca for the greater part of its lower length. (12) To fully exercise the powers conferred on the Commissioners by law, and prevent the drains being further built over. (13) To keep all the drains clean at all seasons of the year, and to strictly prohibit the taking of earth from the drains, and thereby destroying their levels. (14) To look after the proper working of the establishment detailed for cleaning the drains, and insist on getting full value for the money laid out on it. (15) To have a complete scheme of drainage gradually carried out under professional supervision, some progress being made every year. (16) To insist on the house drains being kept clean and connected with the municipal drains. (17) To have the ground around the wells, which are used for drinking, properly sloped, so as to allow the spill-water to run to the nearest drain. (18) To do the best to promote and carry out a scheme for a proper supply of drinking water for the town. (19) To adopt strict measures to enforce the daily attendance of all the conservancy coolies, or if this cannot be done, to sufficiently strengthen the staff so that all conservancy requirements may be efficiently attended to. (20) To still more strictly supervise the conservancy establishment, define the amount of work which each man has to perform, and take that work from him in full. (21) To provide barrel-carts for the removal of fluid house refuse to the trenching grounds for disposal. (22) To supply more wheel-barrows for the conservancy of the narrow lanes. (23) To have drains included in surface cleansing and thereby kept permanently clean. (24) In filling up holes and ditches with street-sweepings, to limit the operation to only so many of them at a time as could be dealt with within a reasonably short space of time. (25) To require the owners of cow and other cattle sheds to keep them in proper order. Also to see that these places have pucca floors and are drained into the municipal drains. (26) Not to allow cow and cattle ordure to be accumulated within compounds of houses for more

than three days. (27) To remove the pig-stys beyond municipal limits. (28) To have some of the existing latrines and a few of those which are proposed to be constructed, exclusively reserved for the accommodation of females. (29) To consider the advisability of introducing Hornbury's patent iron latrines sold by Messrs. Burn & Company of Calcutta. (30) To tar the gumlahs, as well as the drains and the walls of the public latrines, more frequently than heretofore. (31) To properly carry out the dry-earth system in the public latrines. (32) To tar the public urinals regularly. (33) With the increase in the public latrine accommodation, to make persevering endeavours to put down promiscuous defecation. (34) To take early steps to introduce Part IX of the Municipal Act. (35) To at once close the trenching ground which is in the very heart of the town, and to see that the trenching grounds are situated at the outskirts of the town far away from the inhabited quarter, but within easy reach of the groups of privies from which the soil is removed to them. (36) To acquire as soon as possible land for establishing Mahomedan graveyards. (37) To provide a special enclosure for carrying on cremation within it instead of on the dry bed of Phalgu. (38) Not to allow the domes to appropriate the clothes, pillows, &c., of the deceased, but to have these dangerous relics always burned along with the body. (39) To at once discontinue the practice of burying the Hindu and Mahomedan pauper dead on the bed of the river, and to cause the bodies to be either buried in the public cemeteries to be shortly provided, or cremated at the cost of the Municipality. (40) To see that the privies of the lodging-houses are kept scrupulously clean. (41) To do everything to improve the sanitary condition of the lodging-houses, giving particular attention to drainage and conservancy. (42) To strictly work the Poori Lodging-house Act which is in force here. (43) To fully utilise the Compulsory Vaccination Act, particularly its penal provisions, and to employ, if necessary, extra vaccinators during the vaccination season to push on the work more vigorously. (44) To specially appoint a man to go round the various wards and detect all evasions of the requirements of the Compulsory Registration Act, and to systematically prosecute all offenders. Also to adopt measures generally to place registration on a satisfactory footing.

Action taken on the suggestions.—The suggestions are still under consideration, and a full report of the action taken will be submitted hereafter.

Arrah Town.—*Inspected in January 1886.*—I began the inspection on the evening of the 26th, and saw the civil station, the police lines, the mode in which the tank near the kutcherry and one in the town were filled with canal water, and the opium godowns and places of weighment, and the residence of the ryots while giving in their opium crop. Next morning I went round the town with the Vice-Chairman and observed that although many improvements had been effected since last visit, the sanitary condition of Arrah was still, upon the whole, very defective. I was, however, glad to find that its drainage and latrine accommodation had been considered by the Commissioners, and both the Chairman and Vice-Chairman seemed alive to the necessities of the town, and were manifesting great interest in its sanitary welfare.

The suggestions were—(1) To devote annually a fair and equitable share of the income for placing the town on a thoroughly sound sanitary footing. (2) To bring into operation a code of bye-laws framed under the Bengal Municipal Act of 1884. (3) To communicate directly with Mr. Allen, the officer of the Agricultural Department, concerning the acquirement of certain filthy water-holes situated in a *khas mehal* under that Department. (4) To provide as soon as possible pucca drains for the conveyance away of surface water. (5) Not to permit the drains to be blocked and full of foul water. (6) To allow all bath-room water and spill water from wells, &c., to pass into the drains in their present condition, where there are no pucca cess-pools, instead of impounding it in or near houses or in house quadrangles. (7) To have the proposed scheme of providing an efficient system of pucca drainage carried out gradually, some progress being made every year. (8) To consider the expediency of selecting a safer and more direct channel for the water from the Judge's compound to the canal. (9) To have the wells used for drinking properly surrounded by pucca platforms to prevent re-entry of spill water. (10) To provide all the wells with a drain to carry off spill water some distance. (11) To construct, as proposed, the additional public latrines without further delay. (12) To move the Magistrate to provide proper latrine accommodation for the police-lines and the public hospital. (13) To make persevering endeavours to suppress the abominable well-privies. (14) With the gradual increase in public latrine accommodation, to adopt measures to put down promiscuous defecation. (15) To take early steps for bringing Part IX of the Municipal Act into operation. (16) To establish at the outskirts of the town, well away from the inhabited quarter, two or three trenching grounds conveniently situated with reference to the privies from which night-soil is to be conveyed to them, and to have these regularly cultivated after they are manured. (17) To have the drainage of the municipal market attended to, and the exit drain kept open at all seasons and not banded up. (18) To have the floors of the market gradually made pucca. (19) To build, when funds permit, a commodious meat market. (20) Not to allow the trade in bones at Aboor-pool to be carried on among closely inhabited houses, but to have it removed outside municipal limits. (21) To prohibit burials in shallow graves, and see that in the case of the Mahomedans the graves are dug deep enough to allow of the *chupper* being placed at least four feet under the ground. (22) To try to put a stop to the use of the Mahomedan burial-grounds inside the town. (23) Not to allow the clothes, pillows, &c., of the deceased to be taken away by the domes and fakirs, but to have these always burned along with the body. (24) To fully utilise the Compulsory Registration Act, particularly its penal clauses, specially appoint a person to detect and report for punishment all omissions of the provisions of the

law, and require the tax-collectors to report all births and deaths as a check on voluntary registration. (25) To induce the midwives to give information of all births which they attend.

Action taken on the suggestions.—A sub-committee was formed to consider the suggestions made, and they have submitted a report in which they express a general concurrence with the suggestions, and recommend the construction of additional latrines, &c. The whole subject is still under the consideration of the Municipal Committee.

Chupra Town.—*Inspected in January 1886.*—I inspected the town in company with the Vice-Chairman, Baboo Rajendra Nath Roy, who had lately assumed the office. Upon the whole, the sanitary state of the town was seen to have somewhat advanced since my last visit: some of the pucca drains in the more crowded parts of the town were free from rubbish, and the streets were generally clean, but there were still many defects to be reformed before Chupra could be looked upon as a well-cared for town. The drainage was extremely defective, and the arrangements under the heads of water-supply and disposal of the dead were far from being satisfactory, and parts of the town, such as mohullah Ratanpore, &c., were in a very insanitary condition.

The suggestions were—(1) To devote annually a fair and equitable share of the income for rectifying the existing sanitary defects and placing every part of the town on a thoroughly sound sanitary footing. (2) To consider the expediency of slightly raising the taxes, so that more funds might be available for improving the sanitary status of the town. (3) To fully utilise the sections of Part VI of the Municipal Act, which relate to building regulations, and prevent the crowding together of houses without proper provision for ventilation or facilities for scavenging. (4) To administer the sanitary clauses of the Municipal Act with greater activity than at present. (5) To have the kutchra roads gradually metalled, a certain length of them being taken up every year. (6) To construct a good pucca road through mohullah Ratanpore, care being taken to open out the crowded portions of the locality. (7) To entertain a permanent establishment of drain-coolies throughout the year, and hold them responsible that the drains are always in good order. (8) To gradually provide pucca drains of a saucer not square shape throughout the town, and to seek the assistance of wealthy residents to lay them down in front of their house premises. (9) To have the town properly surveyed and levels ascertained according to which drains can be made, and to gradually carry out a proper scheme of drainage, parts being done every year. (10) To adopt measures to improve the condition of the house drains, and to have them connected with the public drains wherever the latter are pucca. (11) To carry out as early as possible the proposal to take possession of the spoil bank of the Salempore tank, and keep the site scrupulously clean. (12) To encourage the proprietor of Ghose's tank to fill it up. (13) To ask the owners of the private wells which are used for drinking to erect round them good protective masonry parapets and platforms, and to drain the area all round the platform. (14) To exclusively set apart for drinking and other domestic purposes a sufficient number of wells, thoroughly protect them from pollution, supply them with buckets and chains with pulleys for drawing water, and strictly prohibit the dipping of private vessels into them. (15) To have the conservancy establishment strictly supervised and the work of each man detailed, and that work taken from him in full. (16) To have the drains included in surface cleansing and thereby kept permanently clean. (17) To provide barrel-carts for the removal of fluid house refuse to the trenching grounds for disposal, until such time as the refuse can be discharged into pucca drains. (18) To employ a portion of the money realised by the sale of street-sweepings and house refuse in filling up foul pits and holes with earth and sand from the *churs*. (19) To require the owners of cow and cattle-sheds to maintain them in proper order, quite free from all offensive smells. (20) To at once put a stop to the burning of the bones of the slaughter-houses at Karimchuck, and never to permit the storage of raw bones amongst and adjacent to dwellings. (21) To construct, as proposed, some more public latrines at convenient places, and to exclusively reserve a few of them for the accommodation of females. (22) To tar the gumlaha, the drains, and the walls of the public latrines up to three feet from the floor, twice a month, and not twice a year as proposed. (23) To ask the overseers to see that the public latrines are kept scrupulously clean and sweet. (24) With the gradual increase in public latrine accommodation, to make persevering endeavours to prevent promiscuous defecation. (25) To induce those of the people who can afford the cost of construction to provide for themselves surface privies which could be cleaned easily. (26) To have Part IX of the Municipal Act, after it is brought into operation, very carefully and stringently worked. (27) To carry out the trenching system properly, the trenches being dug in lines one foot deep and one foot wide, and only six inches of night-soil put into them and the remainder covered with earth; also to do all in their power to get the use of land for shallow trenching near the public latrines. (28) To require the owners of the private markets to provide a latrine near each of them for the use of the market people. (29) As soon as the slaughter-houses are built, to prohibit the killing of cattle at any other place. (30) To establish the proposed public burial-grounds as soon as possible, and after they are provided, to require the owners of the old grounds to plant them with trees. (31) To conduct burials in the new graveyards to be provided, methodically so as to economise space, and to have the graves dug sufficiently deep, so that the *chupper* may be at least four feet under the ground. (32) To have the clothes, pillows, &c., of the deceased always burnt along with the body. (33) To at once stop the hurtful practices of throwing the Hindu pauper dead, as well as uncremated or partially cremated bodies, into the river, and to have the pauper dead either burned or buried at

municipal cost, and insist upon complete cremation in all other cases. (34) To take early steps to introduce the Compulsory Vaccination Act. (35) To fully utilise the provisions of the Compulsory Registration Act, particularly its penal clauses. (36) To specially appoint a man to detect and report for punishment all omissions of the requirements of the above-named law. (37) To require the municipal servants, such as tax-collectors, overseers, &c., to report births and deaths as a check on the police reports and voluntary registration. (38) To induce the midwives to give information of all births which they attend.

Mozufferpore Town.—*Inspected in January 1886.*—The sanitary condition of this town was very unsatisfactory. I failed to find any improvement since last visit. There was evidence of neglect on every side, and I was obliged to record an unfavourable opinion of the administration of municipal affairs here. The Commissioners appeared indifferent to the sanitary welfare of the place, and many grave defects were seen which required urgent rectification. The drainage arrangements were as bad as could be, and certainly very discreditable to the Commissioners. The drains were universally obstructed, and in no instance answered the purposes for which they are intended. The arrangements under the heads of water-supply and conservancy were very defective, and in some cases objectionable. There were, moreover, numberless foul pits and excavations, and it was strange that no step had been taken to deal with these nuisances.

The suggestions were—(1) To devote year after year the greater portion of the amount over Rs. 6,900 set free by the Municipality having been relieved of police charges, as well as a fair share of the remaining income, to place the town on a sound sanitary footing. (2) To try to curtail as much as possible the expenditure incurred for maintaining the municipal establishment shown under head G, page 4, of the Municipal Memorandum Book. (3) To consider the desirability of raising the taxes a little. (4) To fully utilise the sections of Part VI of the Municipal Act, which relate to building regulations, and prevent the crowding together of huts without suitable provision for ventilation or drainage. (5) To have the sanitary clauses of the Municipal Act administered with the desired activity and closeness. (6) To strictly enforce section 232 of the above Act, and prevent the formation of hollows, &c. (7) To make persevering endeavours to gradually obliterate all the pits and holes, street-sweepings, and the solid refuse from houses being fully utilised for the purpose when the pits are at a distance from the dwellings, and care being taken to limit the operation to only so many of them at a time as could be filled up within a short period. (8) To consider the advisability of acquiring some of the larger hollows and converting them into tanks for drinking purposes, and employing the earth which would then become available, in filling in smaller holes around. (9) To have the drains properly attended to, their levels gradually improved, and an outfall to the south opened out. (10) To fully utilise sections 202 and 204 of the Municipal Act, prevent all future encroachments over drains, take steps to deal with the existing ones, and permit no new erections except what are sufficient for entrance to and exit from houses and shops. (11) To begin work as early as possible in connection with the provision of an improved system of drainage which is being considered by the Commissioners, and to either carry out the project gradually, some progress being made every year, or raise a loan for bringing it into speedy completion. (12) To have all side-drains to the chief streets pucca, shallow, and saucer-shaped. (13) To have all house drains connected with the road side drains wherever the latter are pucca. (14) To induce the owners of such of the foul tanks as cannot be maintained in a wholesome condition to have them filled up. (15) To connect as many of the tanks as possible with one another, and with the river Gundak. (16) To take immediate action to prevent soakage in the vicinity of the wells used for drinking. (17) To reserve exclusively for drinking a sufficient number of the public wells, properly protect them from pollution, supply them with buckets and chains with pulleys for raising water, and prohibit the promiscuous dipping of vessels into them. (18) To favourably reconsider the scheme for supplying the town with filtered water from the river Gundak, raise a loan for carrying out the work, and put an end to the present deplorable state of things as soon as possible. (19) To sufficiently strengthen the conservancy establishment and have it strictly supervised. (20) To provide more hand-barrows for the proper conservancy of the lanes and by-paths. (21) To supply barrel-carts for the removal of fluid house-refuse to the trenching grounds for disposal, and to properly supervise the cleaning of the vats into which the refuse is collected. (22) To have the drains included in surface cleansing and kept permanently clean. (23) To require the owners of the cow and other cattle-sheds to keep them in a clean and inoffensive state. (24) Not to permit cow-dung to be accumulated within house premises, but to have it either converted into cakes for fuel or deposited in the fields for use as manure. (25) To construct an adequate number of public latrines at convenient places, and reserve some of them and two or three of the existing ones for the exclusive use of females. Also in place of the ordinary structures, to adopt Hornbury's patent iron latrines sold by Messrs. Burn and Company of Calcutta. (26) To provide all the public latrines with pucca floors at least, as well as with pucca shallow drains. (27) To have the gumlahs, the drains, and the walls of the public latrines up to three feet high properly tarred twice a month. (28) To cause the dry-earth system to be properly carried out in all the latrines, and to require the methers to sprinkle a sufficient quantity of dry earth over the gumlah each time it is used. (29) To keep the public latrines in good repair and scrupulously clean and sweet, and to hold the conservancy overseers responsible for the cleanliness of the latrines. (30) To have the latrines intended for females attended to by methranis only. (31) To provide sheds for methers near the latrines, so that they may reside there and clean them as often as necessary. (32) With

the increase in public latrine accommodation, to make persevering endeavours to put down promiscuous defecation. (33) To put up public urinals in crowded localities and at places most frequented by the people. (34) To at once take steps for bringing Part IX of the Municipal Act into operation. (35) To properly carry out the trenching system, the trenches being dug in lines one foot wide and one foot deep, and only half filled with night-soil, the remainder being covered with earth. (36) To induce the cultivators to make over their lands for shallow trenching. Also to establish one or two trenching grounds at places well removed from the inhabited quarters, but within easy reach of the night-soil depôts from which the filth is to be conveyed to them. (37) To gradually provide the municipal markets with pucca floors, and to keep their drains quite free to act. (38) To prohibit further interments in the municipal graveyard which is overcrowded, and have the ground planted with rapidly-growing trees and shrubs. Also to establish another cemetery in its stead. (39) To require the chowkidar in charge of the burial-ground to see that the *chupper* over the grave is placed at least four feet below the surface of the ground. (40) To stop, if it should turn out to be true, the practice of throwing partially cremated bodies in the river. (41) To prevent the appropriation of the clothes, pillows, &c., of the deceased by the domes, and to have these completely destroyed by fire. (42) To appoint extra vaccinators during the vaccination season, so that all the children born during the year and a certain number of the people who are still unprotected may be vaccinated. (43) To discourage the practice of inoculation, and to prosecute any person who returns to the town with the vesicles on his arm or in a state to afford contagion. (44) To make proper arrangements for the efficient administration of the Compulsory Registration Act, particular attention being paid to fully utilising its penal provisions. (45) To specially appoint a man to detect and report for punishment all evasions by the people of the requirements of the above-named law. (46) To require the overseers and the tax-collectors to report births and deaths as a check on voluntary registration. (47) To introduce the hath-chitti system, the receipts granted for deaths reported being required to be made over to the constables or other persons who are in charge of the burial and burning-grounds. (48) To induce the midwives to give information of the births at which they attend.

Action taken on the suggestions.—Steps are being taken to carry out the suggestions regarding the improvement of the town drainage. The other suggestions are under the consideration of the Commissioners.

Motihari Town.—*Inspected in February 1886.*—Commendable sanitary improvements were seen to have been effected since the town was last visited. Steps had been taken for increasing the municipal income by raising the house-tax; several pucca roads and drains had been constructed at a cost of over Rs. 3,500; street-sweepings were being carefully utilised in filling up holes; two new latrines—one for males and the other for females—had been added to the serai; sufficient land had been provided for trenching purposes; a large municipal market had been established; land was being acquired for erecting a slaughter-house; arrangements had been made for the proper supervision of the burial and the burning-grounds; steps had been taken for introducing the Compulsory Vaccination Act; and a separate registrar of births and deaths had been appointed. The Commissioners were exhibiting great interest in the sanitary welfare of the town, and no doubt much had been done in this direction, but there were still many grave defects which required early rectification.

The suggestions were—(1) To try to effect as much saving as possible in the expenditure under the head "Maintenance of hospital," &c. (2) To continue to devote annually an equitable share of the income to rectify the sanitary defects which still exist and to place every part of the town on a satisfactory sanitary footing. (3) To have the pits that are in a very bad state filled entirely and covered with earth as soon as possible. (4) To utilise the earth to be taken from the excavation of Baboo Gopal Sahu's tank in filling up hollows and excavations. Also to make persevering endeavours to gradually obliterate these nuisances. (5) To provide pucca side-drains to most of the streets of the town, and to have them constructed of a saucer shape and as shallow as compatible with the amount of rain-water to be carried off. (6) Not to permit the pucca drains to be obstructed with accumulations of earth and rubbish. (7) To require the road sweepers to look after the drains daily, and to remove all rubbish, &c., from them. (8) To prevent the drains being built over in future, and to oblige the owners of such structures to provide man-holes to enable the coolies to clean the drains. (9) To allow the house drains to discharge into the public drains wherever possible. (10) To have the town properly surveyed and levels ascertained according to which drains can be made; to undertake an efficient system of drainage, and have the project carried out gradually, some progress being made every year. (11) To require householders to keep their house drains clean. (12) To see that the wells used for drinking are sunk deep in order that a perennial supply may be secured. (13) To provide all the wells with pucca parapets and platforms surrounded by shallow saucer drains having connection with another drain to carry off spill water to a good distance from the wells, or, where possible, to the nearest public drain. (14) To prohibit the dipping of private vessels into the municipal wells if not into others, and supply them with buckets and chains with pulleys for raising water. (15) To adequately strengthen the conservancy establishment and to increase the number of carts. (16) To provide wheel-barrows for the conservancy of the lanes and by-paths. (17) Either to strengthen the present establishment detailed for cleaning the drains, or to require the road coolies to attend to them in addition to sweeping the roads. (18) To provide some public latrines at convenient places, and set apart a few of them for the exclusive use of females.

Also to introduce Hornbury's pattern corrugated iron latrines in place of building the ordinary structures. (19) To keep all the latrines scrupulously clean and inoffensive, and have those reserved for females attended to by methranis only. (20) To use dry earth in all the public latrines. (21) To induce those who can afford the cost of construction to provide themselves with surface privies, with receptacles which could be easily cleaned. (22) To require the owners of such of the private privies as are dirty to keep them in proper order. (23) With the gradual provision of public latrine accommodation, to take steps to prevent promiscuous defecation as much as possible. (24) To carry out the trenching system in the manner in use in the jail garden. (25) To require the owner of the market in the town proper to maintain it in proper order, and if he fails to do so, to cancel the license for the market. (26) After the construction of the proposed slaughter-house to prohibit the killing of cattle at other places. (27) To allow none but healthy cattle to be killed for food consumption. (28) To see that the graves are dug sufficiently deep, so that the *chopper*, which is usually placed over the Mahomedan dead, may be at least four feet below the ground surface. (29) To prevent by every possible means the practice of throwing partially cremated bodies into the rivers Shikarana and Dhanowti. (30) To make suitable arrangements for satisfactorily carrying on vaccination and putting the town in a state of perfect protection. (31) To fully utilise the provisions of the Compulsory Registration Act, particularly its penal clauses, and to require the registrar specially appointed for the purpose to go round the town to detect all omissions by the people of the requirements of the law and bring the offenders for punishment. (32) To see that the overseers and the tax-collectors regularly report the events as a check on voluntary registration.

Action taken on the suggestions:—(1) Two large pits in the heart of the town have been nearly filled up. (2) Provision has been made in the ensuing year's budget for keeping the wells in good order and providing the municipal ones with buckets and chains with pulleys. (3) It has been resolved to acquire two bighas of land for trenching night-soil, and pending its provision, night-soil is being trenched in the jail gardens. (4) A proper slaughter-house has been constructed, and is under the supervision of the Mahomedan Commissioners. (5) Two public latrines—one for males and the other for females—have been constructed.

Bettiah Town.—*Inspected in February 1886.*—I visited Bettiah in company with Dr. Bovill, the Civil Surgeon of Ohumparun, and found it in much the same condition as when seen on the last occasion. Serious defects were observed under almost every branch of sanitation. The drainage and the conservancy arrangements were very defective, and the quality of the water used for drinking and other domestic purposes was far from being satisfactory. Pits and hollows were also very numerous. To add to the unhealthiness of the place, the houses of the people are mostly kutcha and damp, ill-ventilated, badly drained, and overcrowded. What little the Commissioners had done since last inspection to improve the sanitation of the town was quite inadequate to local wants.

The suggestions were:—(1) To allot year after year the greater portion of the amount set free by the Municipality having been relieved of police charges, in addition to a fair and equitable proportion of the remaining income, for remedying the existing defects and materially improving the sanitary condition of the town. (2) To seriously consider the desirability of slightly raising the taxes. (3) To fully utilise the sections of Part VI of the Municipal Act which relate to building regulations. (4) To bring into operation a code of bye-laws framed under the above-named enactment. (5) In filling in pits and hollows to take up only so many of them at a time as can be dealt with expeditiously, and as they are filled up, to spread a layer of earth over the surface and encourage the growth of grass and rapidly-growing herbage upon it. (6) To strictly enforce section 232 of the Municipal Act and put a stop to the making of further excavations for the purpose of taking earth, &c., therefrom. (7) To fully explain to the people the evils arising from living in houses that are damp, ill-ventilated, overcrowded, &c., and to insist on the construction of houses on a better and approved plan in future. Also to introduce Dr. Cunningham's Sanitary Primer into all schools maintained or aided by the Municipality. (8) In providing pucca drains in future to construct none but those of saucer shape, and to keep the existing pucca ones scrupulously clean at all seasons. (9) To make the cleaning of the drains a part of the duty of the street-cleansing establishment. (10) To take up the question of drainage, induce the Maharaja to allow his engineer to survey the town properly, to ascertain the levels, and gradually carry out a proper scheme of drainage, some progress being made every year. (11) To have more wells surrounded with masonry parapets as well as with proper drains to carry off spill water. Also to cause wells to be sunk deep in order that a permanent and a comparatively pure water-supply may be obtained. (12) Not to lose sight of the scheme for connecting the Gundak with the Ohundrawati, but to cause an estimate of the work to be carefully prepared, and see how much of the estimated amount can be realised by subscription. (13) To adequately strengthen the conservancy establishment and increase the number of carts. (14) To include drains in surface cleansing, and direct the road-sweepers to attend to them. (15) To provide wheel-barrows for the proper conservancy of the narrow lanes. (16) To have all the lanes and by-paths swept at least twice a week, and the sweepings properly removed. (17) To require all the people to bring out at a stated time all house-rubbish, &c., and deposit it on the roadside for removal by the conservancy carts. (18) Not to allow any offensive or dangerous trade to be carried on within the limits of the Municipality. (19) To keep the public latrine scrupulously clean, and try to overcome the objections of the people to using it. (20) To have the drains, the gumlahs, and the walls of the latrine up to three feet from the floor tarred once every month. (21) To induce those of the

inhabitants who can afford the cost of construction to provide for themselves properly constructed surface privies with receptacles which could be easily cleaned. (22) To make persevering endeavours to put down promiscuous defecation, and to require the police, under section 865 of the Municipal Act, to perform this part of their duty more actively than heretofore. (23) To properly carry out the trenching system, and to have the grounds regularly cultivated. (24) To request the Maharaja to gradually improve the condition of the markets belonging to him, and to attend to their conservancy. (25) To construct a slaughter-house on a small scale with proper drainage and water-supply, and after it is established, to prohibit the killing of cattle at any other place. (26) To see that in the public graveyards for the Mahomedans bodies are buried in lines with fixed distances between each grave and each row of graves. (27) If the Maharaja wishes to keep the serai under his own management, to request him to complete the building as well as to keep it in good order, carefully look after its conservancy, and provide it with a latrine and a good pucca well. (28) To strictly enforce the provisions of the Compulsory Vaccination Act. (29) To require both the mohurrir and the chaprassi specially appointed for registration purposes to go round the town for a few hours daily to detect and report for punishment all evasions by the people of the requirements of the Compulsory Registration Act. (30) To require the tax-collector, &c., to report all births and deaths as a check on voluntary registration.

Action taken on the suggestions:—(1) A code of bye-laws under the present Municipal Act has been framed and submitted to Government for sanction. (2) The suggestions with regard to roads and pits will be carried out. (3) The entertainment of some more methers has been provided for in the next budget. (4) Wheel-barrows will be introduced experimentally. (5) The public latrines will be tarred. (6) Every endeavour is being made to prevent promiscuous defecation. (7) The trenching system is being properly carried out. (8) Steps have been taken to keep the serai in good order. (9) Saucer-shaped drains have been introduced in the town.

Durbhanga Town.—*Inspected in February 1886*—The sanitary condition of this town was very bad. There were grave defects under almost every branch of sanitation, particularly under drainage and conservancy, and little had been done since last inspection to remedy them. The Commissioners seemed more inclined to spend money on such luxuries as watering roads (Rs. 2,016), lighting (Rs. 1,750), increasing pay of establishment, already too high, and so forth, than to exert themselves to remove the extremely insanitary conditions which foster the generation and enhance the severity of epidemic diseases. The whole place was riddled with dirty holes and ditches full of the foulest water, and many reeking with decaying vegetation.

The suggestions were—(1) To gradually rectify the existing sanitary defects which are endless, and devote for the purpose, in accordance with the special wishes of Government on the subject, the greater portion of the amount set free by the Municipality having been relieved of police charges, as well as a fair and equitable share of the remaining income. (2) To consider the expediency of raising the taxes, so that more funds might be forthcoming for improving the sanitary status of the town. (3) To fully utilise the sections of Part VI, which relate to building regulations, and prevent in future the irregular laying out and construction of houses without proper provision for ventilation or facilities for scavenging. (4) To administer the sanitary clauses of the Municipal Act with greater activity. (5) To strictly enforce section 232 of the ~~the~~ *Sanitary Act*, and prevent the making of further excavations. (6) To employ street-sweepings and the solid refuse from houses in filling up all dirty pits and water-holes when they are at a distance from the habitations of the people. (7) To acquire some of the larger excavations and convert them into tanks, and to utilise the earth which would then become available in filling in smaller holes around. (8) To consider the advisability of annually setting apart a small portion of the municipal revenue for filling up some of the filthy hollows and ditches with earth and sand from the river bed during the dry season. (9) To undertake a proper survey of the town, and to carefully prepare a complete scheme of drainage, and either to raise a loan for quickly carrying out this important work, or to take it up year by year in parts, and have it executed gradually. (10) To divert, as far as practicable, all the drains from emptying into tanks and hollows. (11) To construct pucca shallow saucer-shaped side-drains in the crowded localities and along the principal thoroughfares, and to make arrangements for connecting all house drains with them. (12) Pending the provision of an improved drainage system, to maintain the existing drains in order and quite free to act, and to prevent the throwing of rubbish into, and the taking of earth from, the drains. (13) To see that the house drains are kept properly clean. (14) Either to remove the houses from the bank of the Lalpokur, or to have the bank so raised that water, &c., from the houses will run away from the tank. (15) By all means to prevent bathing in the tanks reserved for drinking. (16) To construct a pucca shallow drain around the rim of the platform round the mouths of the wells used for drinking, having connection with another pucca drain, so that the spill water may be carried to a good distance from the well. (17) To keep the pumps supplied to the municipal wells in good repair. (18) To see that the banks of the river is not fouled by squatters. (19) To have all the tanks and pools, as far as practicable, connected with one another and with the river. (20) To adequately strengthen the conservancy establishment, increase the number of carts, and have the establishment strictly supervised. (21) To require the methers to give a month's notice prior to leaving service. (22) To require the people to bring out all house-rubbish, &c., at some fixed hour and deposit them on the roadside for removal by the conservancy carts; to insist on the

cleanliness of the surroundings of houses, and to take steps to remove all existing accumulations of filth and rubbish from them at the cost of the owners. (23) To have all the lanes and by-paths swept every alternate day, and to provide wheel-barrow for their proper conservancy. (24) Not to employ sewage and other offensive matters in filling up pits and holes, but to have them buried in the trenching grounds. (25) To provide a sufficient number of barrel-carts for the removal of fluid house and kitchen refuse to the trenching ground for disposal, until such time as the refuse can be discharged into pucca public drains. (26) To include drains in surface cleansing and keep them permanently clean. (27) To provide more public latrines in the crowded parts of the town, and specially one near the large market on the river bank, and set apart a few of them and some of the existing ones for the exclusive use of females. Also to adopt the use of Hornbury's patent iron latrines. (28) To keep all the latrines in good repair and scrupulously clean and inoffensive. (29) To require the overseers to see that the dry-earth system is properly carried out in all the latrines. (30) To gradually increase the number of public urinals, and to keep the iron sheeting of these structures carefully tarred to prevent corrosion. (31) With the increase in public latrine accommodation to make persevering endeavours to put down promiscuous defecation. (32) To induce those who can afford the cost of construction to provide themselves with properly-constructed surface privies. (33) To take early steps for bringing into operation Part IX of the Municipal Act. (34) To properly carry out the trenching system, the trenches being dug in lines one foot deep and one foot wide, and so much night-soil poured into them as would admit of their being covered with a layer of earth. Also to demonstrate to the people the value of this manure, and induce the ryots to make over their lands for shallow trenching. (35) When a portion of the ground is manured as above, to have it cultivated, so that the purity of the soil may be restored. (36) To take steps to prevent the sale of unwholesome food or drink. (37) To make such additions and alterations in the new slaughter-house building as to suit the purposes for which it is intended, and after the building has been completed, to prohibit the killing of cattle at any other place, and allow none but healthy cattle to be killed for food consumption. (38) To close all private cemeteries within municipal limits, permit no further interments in them, and require their owners to plant them with trees. (39) To establish outside the town a few conveniently-situated burial-grounds in place of the private ones to be closed. (40) Not to permit apprentices to vaccinate on their own account and take fees, but to have vaccination done by the municipal servants only, who alone can be held responsible. (41) To see that the provisions of the Compulsory Vaccination Act are properly carried out, and that men of sufficient education are obtained as operators who can keep the prescribed registers. (42) To properly conduct and look after the existing arrangements for collecting the vital statistics, and adopt measures generally to secure accuracy in registration. (43) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions :—(1) Pucca platforms have been built around the mouths of eight municipal wells, and repairs done to the platforms of some of the private ones that are largely used by the people. (2) All the pucca latrines have been repaired and their drains, &c., put into order. (3) Four additional public latrines have been provided, and of the kutcha structures some have been separately assigned for the accommodation of females, and the rest for that of males. (4) The floor of the slaughter-house has been properly cemented.

Regarding the other suggestions, it was reported that they were under consideration of the Commissioners, and that endeavours would be made to carry them out as far as possible during the current and the ensuing years.

Chittagong Town—*Inspected in February 1886.*—I inspected the town generally accompanied by the overseers, who were both ignorant and deceitful, doing their best not to supply information, and, if any, information of an incorrect character. It appeared that there had been since my last visit some improvement in roads and bridges and enclosure of springs, but the sanitary status of the town had hardly advanced at all, and all the evils before pointed out yet remained to be dealt with, and much was being done, such as the creation of more pits and hollows for the making of bricks, the digging of holes generally, the blocking of drainage channels, the non-removal of filth and jungle, and so forth, which would all tend to intensify the bad reputation of Chittagong. Paucity of funds had to some extent prevented the Commissioners from undertaking much sanitary work, but there is no doubt that with the money at their disposal far more could have been done than had been done; but this would have required active personal supervision on the part of the Chairman, Vice-Chairman, and the Commissioners, and the stringent supervision of the conservancy establishment. In fact, Chittagong had evidence of being a sadly neglected town, and the Commissioners appeared to be in a chronic state of inability to effect much good in it.

The suggestions were :—(1) To take early steps to move the Revenue and the Public Works Departments to undertake the important sanitary works the execution of which was left to them according to Government order No. 1021T—M, dated 23rd August 1883. (2) To devote annually the greater portion of the amount set free by the Municipality having been relieved of police charges, in addition to a fair share of its remaining income to place every part of the town on a perfectly sound sanitary footing. (3) To consider the expediency of slightly raising the taxes. (4) To strictly enforce the sections of Part VI of the Municipal Act which bear on building regulations, and prevent the crowding together of huts without passages between them for admitting conservancy carts or proper provision for

ventilation. (5) To prevent the narrow lanes being used as repositories for the filth of the neighbourhood. (6) To gradually metal some of the important katcha roads. (7) To put a stop to the making of further excavations, and to have bricks made beyond town limits. (8) To fully utilise section 232 of the Municipal Act, and make persevering endeavours to gradually fill up all pits and hollows. (9) As far as practicable, to have all the pits connected with one another and with the nearest natural drainage channel. (10) To annually set apart a small portion of the income for filling up some of the foul holes and pits with mud and sand from the river churs during the hot season. (11) To have the Chaktai nullah and the other natural drains cleared of silt and jungle and maintained in proper order. (12) To maintain a properly supervised establishment to keep all the side-drains clean and free to act at all seasons. (13) To provide more pucca shallow saucer-shaped drains by the sides of the principal streets and in the crowded localities, and to make arrangements for connecting all house drains with them. (14) To see that the drains in the mosque enclosure at Buxihat are kept properly clean and not choked with filthy sludge. (15) To have the town properly surveyed and levels ascertained according to which drains can be made, and to undertake a complete scheme of drainage, and carry it out gradually. (16) To substitute light wooden covers for the mat ones over the municipal wells and springs reserved for drinking. (17) To have as many of the springs as yield a good supply properly enclosed and conserved. (18) To consider the desirability of improving the water-supply by sinking wells at the foot of the various hills where springs exist, raising this water by means of pumps and discharging to hydrants throughout the town by pipes. (19) To require the owner of the filthy spring in Dewanbazar to clean it out and keep it in proper order. (20) Where it is possible, to have the surplus water of springs carried into tanks. (21) To require the owners of such tanks as are quite useless to have them gradually filled up. (22) To take steps to introduce river water into as many of the tanks as possible. (23) To adequately strengthen the conservancy establishment and increase the number of carts. Also to have the establishment efficiently supervised, the present sub-overseers, who appear completely to fail in realising their duties, being changed. (24) To provide wheelbarrows for the proper conservancy of the narrow lanes and by-paths. (25) To require the people to bring out at the appointed hour all house-rubbish, &c., and deposit them on the roadside for removal by the conservancy carts. (26) To have all the principal streets swept daily, and the lanes and by-paths at least twice a week, and the sweepings removed regularly. (27) To construct more public latrines on an improved plan at convenient places, and reserve some of them and three or four of the existing ones for the exclusive use of females. Also to adopt the use of Hornbury's patent corrugated iron latrines. (28) To have the latrines for females attended to by methranis only. (29) To tar the gumlahs, the drains, and the walls of the public latrines up to three feet high twice a month. (30) To properly carry out the dry-earth system in all the latrines and require the methur to pour a sufficient quantity of dry earth in the gumlah after it has been used. (31) With the increase in public latrine accommodation to adopt stringent measures, and make every endeavour to put down promiscuous defecation. Also to require the police, under section 365 of the Municipal Act, to discharge this part of their duty properly and satisfactorily. (32) To take early steps to introduce Part IX of the Municipal Act. (33) To early consider the question of providing trenching grounds, and to secure suitable plots of land for this purpose conveniently situated with reference to the public latrines and the different parts of the town. Also to induce cultivators to make over their lands for shallow trenching. (34) To have the trade in dried fish of evil odour carried on outside the public markets. (35) To provide another exit for the methur from the Feringhee Bazar latrine. (36) To require the owners of the private markets to remedy the defects pointed out, and take steps generally for improving the condition of these places. (37) Not to allow the killing of cattle at all places. Also to consider the advisability of establishing a proper municipal slaughter-house. (38) To have many of the private graveyards permanently closed, interments being permitted in very exceptional cases, and to require the owners of the grounds to be closed to plant them with trees. (39) To provide in their stead one or two public burial-grounds outside the town. (40) To close the Christian cemetery near the old Catholic chapel, which is situated among the houses of the Europeans. (41) To see that in the public graveyard bodies are buried in lines with fixed spaces between each grave and each row of graves, and that one part of the ground is used before another is taken up. (42) To have the graves dug sufficiently deep, so that the *chupper*, which is usually placed over the Mahomedan dead, may be at least four feet below the surface of the ground. (43) To carefully supervise the burial-grounds and keep them in good order. (44) To introduce the Compulsory Vaccination Act, and put the town in a state of perfect protection. (45) To take steps to efficiently administer the Compulsory Registration Act, particular attention being paid to fully utilising its penal provisions. (46) To specially appoint a man to detect and report for punishment all evasions by the people of the requirements of the above-named enactment. (47) To require the municipal overseers and the tax-collectors to report births and deaths as a check on voluntary registration. (48) To introduce the hath-chitti system. (49) To induce the midwives to give information of the births which they attend.

*Action taken on the suggestions:—*It was resolved (1) To introduce Part IX of the Municipal Act. (2) To strictly enforce section 243 of the above-named enactment. (3) To put in order next year the main lines of metalled traffic roads. (4) To make provision in the next budget for watering roads and rolling them. (5) To carefully level the drains when roads are repaired. (6) To refuse permission to manufacture bricks at Baidnath

garden. (7) To fill up pits and hollows, and connect them with drains as far as practicable. (8) To employ extra coolies to level the drains and keep them clean. (9) To enforce section 261 of the Municipal Act, and introduce the license system for carrying on certain offensive and dangerous trades. (10) To cause, under section 254 of the said Act, the existing burial and burning-grounds to be registered. (11) To inform the people by notice as well as by beat of drum that they may place rubbish, &c., on the sides of the public roads adjacent to their houses between 4 A.M. and 8 A.M. for removal by municipal methods.

Darjeeling Town.—*Inspected in May and June 1886.*—I visited the town in company with Mr. Clark, the Vice-Chairman, the municipal Overseer and the Inspector being also present on some of the inspections, and found that the general condition of the place was fairly satisfactory. Many improvements had been effected since it was last visited, and it was evident that the Commissioners had been taking commendable interest in the sanitary welfare of this, the only sanitarium of Bengal.

The suggestions were—(1) To take a complete census of the town and communicate its result to this office. (2) To annually spend more money than 8·15 per cent. of the income to carry out permanent sanitary improvements, and place every part of the town on a thoroughly sound sanitary footing. (3) To strictly enforce the sections of Part VI of the Municipal Act, which relate to building regulations. (4) To keep the fencing of the station roads in good repair. (5) To have the target set up on the Victoria road for the use of the police removed. (6) To permit the bunnias to erect tents and small huts to serve the purposes of shops on the roadsides only in places where there is no danger of a horse going down the khud. (7) To pay great attention to the general cleaning of the neighbourhood of houses in the villages of Ghoom and Jore Bungalow. Also to see that proper drainage arrangements are made in front of and between houses in the Ghoom village, and to have all rubbish, where possible, collected in boxes and removed by the sweepers, and in other cases dragged by the sweepers down hill to the bottom of jhoras. (8) To keep the house drains in the bazar, and specially those between contiguous houses, which are often made of wood with imperfect joints, in proper working order. (9) In every way to aim at an increase of the water-supply of the town, and not the artificial limit of the present supply which is insufficient. (10) To have the cost of supplying the people living on the western end of Ghoom village with pipe-water estimated for in next year's budget. (11) To provide properly constructed bathing platforms at convenient places. (12) To have the cess-pits into which the kitchen refuse is collected regularly and properly cleaned. (13) To have the cattle pound regularly cleaned out, and permit no accumulation of dung. (14) To provide more public latrines at convenient places for the exclusive use of females. (15) To put up corrugated iron urinals at places most frequented by the people. (16) To take steps to put down promiscuous defecation. (17) To provide in the bazar either concrete drains or drains of faced stones with mortar at the joints to prevent soakage into the ground. (18) To have the floor and drain of the slaughter-house, the floor of the house for slaughter cattle, and the tap of the hydrant in the former repaired. (19) To allow none but healthy cattle to be killed for food consumption. (20) To consider the advisability of providing a covered slaughter-house for pigs at Jore Bungalow. (21) Not to allow the Mochees who prepare skins to encroach on the Mahomedan burial-ground. (22) To take steps to place registration on a satisfactory footing. (23) To require the tax-collectors and the overseers to report births and deaths as a check on voluntary registration. (24) To induce the midwives to give information of all births which they attend.

Naraingunge Town.—*Inspected in August 1886.*—Much had been done since last inspection to improve the sanitation of this important town, and the Commissioners seemed fully alive to its wants, and were displaying great interest in its sanitary welfare. There were, however, still many grave defects calling for early rectification.

The suggestions were—(1) To continue to devote annually a fair and equitable share of the income to place every part of the town on a sound sanitary footing. (2) To fully utilise section 227 of the Municipal Act, as well as those sections of Part VI of it which relate to building regulations. (3) To construct a regular road along the river bank on the Madungunge side behind the places of business. (4) To gradually provide pucca shallow saucer-shaped side-drains in the crowded localities and along the principal thoroughfares, and to make arrangements for connecting all house drains with them. (5) To see that the plinths of all huts and houses are raised well above flood level. (6) To advise the owners of all filthy pits to keep filling them up every cold season with earth from without the limits of the town. (7) To have the holes in the railway compound at the ghât filled up, and to instruct the company to put it in proper order. (8) To fully utilise street-sweepings and the solid refuse from houses in filling up pits and holes when they are at a distance from the habitations of the people. (9) To consider the advisability of acquiring some of the excavations and converting them into tanks, the earth which would then become available being employed in filling up smaller holes around. (10) To have the pits connected, as far as practicable, with one another and with the khalls. (11) To annually set apart a small portion of the income for filling some of the filthy excavations and hollows with mud and sand from the river churs during the dry season. (12) To see that the drains are not silted up and overgrown with grass. (13) To have the kutcha deep drains converted gradually into pucca shallow ones. (14) To try to improve the condition of the house drains. (15) To construct a small bank or a raised road along the west side of the Lyall's tank to prevent the drainage from Messrs. Balli Brothers' coolie lines finding its way into it. (16) To prohibit the erection

of latrines in close proximity to the private tanks, and take steps to have the existing ones removed, where possible, to a safe distance. (17) To strictly forbid defecation on the banks of the river. (18) To have the conservancy establishment strengthened as proposed, and the number of rubbish carts increased. (19) With the increase in the establishment to take steps to have all the lanes and by-paths swept daily. (20) To provide barrel-carts for the removal of fluid house and kitchen refuse to the trenching grounds for disposal. (21) To erect small iron latrines for the exclusive use of females, and to have them attended to by methranis only. (22) To induce the well-to-do class of the people to provide for themselves proper surface privies. (23) To put up corrugated iron public urinals at convenient places. (24) To make persevering endeavours to put down promiscuous defecation. (25) To carry out the trenching system in the manner described in the last Inspection Report. Also to consider whether during the rainy season it would not be possible to discharge all night-soil into the river beyond the town by means of a hopper barge, the discharge being made at the time of ebb-tide. (26) To require the owners of the two markets which were not in proper order to provide them with pucca floors and drains. (27) To establish a municipal slaughter-house on a small scale with proper drainage, water-supply, and other conveniences, and to prohibit the killing of cattle at any other place. (28) To have the graves dug sufficiently deep, so that the *chuppar*, which is usually placed over the Mahomedan corpse, may be at least four feet below the surface of the ground and not six inches to one foot as at present. (29) To fully utilise the provisions of the Compulsory Vaccination Act after it has been introduced, and to appoint a municipal vaccinator to carry on operations within the limits of the town. (30) To adopt measures generally to secure accuracy in registration. (31) To induce the midwives to give information of all births at which they attend.

Action taken on the suggestions:—(1) The railway authorities have been requested to fill up the low places in the railway compound. (2) The owners of the markets have been served with notices to make the floors and drains of these places pucca, and to provide proper privies and urinals near them. (3) The conservancy establishment has been increased by ten methrans and eight methranis. (4) Parts of the surface drains by the sides of the Eastern and the Sitallakhya roads are being made pucca. (5) A paid vaccinator has been employed, and vaccination registers are being kept by the registrar of births and deaths.

Dacca Town—Inspected in August 1886.—I was accompanied by Mr. Sarkies, the Secretary to the Municipality, during my inspection, and saw the various municipal subordinates in different parts of the town. It appeared that the general condition of the town was anything but satisfactory. Grave defects requiring urgent attention were seen on all sides. The drainage was exceedingly defective—there were no drains at all in several places, and those that existed were much encroached upon, and in many instances no better than elongated cess-pools. The water-supply of large portions of the town, which were still dependent on tanks and wells for drinking water, was very bad. The conservancy arrangements were equally unsatisfactory, being in fact totally incommensurate with the needs of the town. The abominable well-privies and the sundasses still existed in numbers and helped to lower the health status of the place. In fact Dacca, though somewhat improved as to roads and water-supply, was still in a horribly insanitary state. There was, however, evidence that the sanitation of the town had engaged the attention of the Commissioners, and that something was being done to improve it. It was satisfactory to find that many filthy gors had been and several were being filled up. Baboo Iswar Chundra Das continued to manifest great interest in the sanitary welfare of the town, and opened at his cost, amounting to Rs. 800, a lane from Allagully road to Pattakhan lane. The action of Baboo Bhojohari Shaha in converting a footpath into a lane fit for carriage traffic also deserved much praise.

The suggestions were—(1) To annually devote a fair and equitable share of the income for carrying out permanent sanitary works and placing every part of the town on a proper sanitary footing. (2) To consider the advisability of selling off the lands belonging to the Municipality, and of employing the proceeds in undertaking several important schemes, such as the extension of the filtered water-supply, the provision of an improved system of surface drainage, &c. (3) To strictly enforce the sections of Part VI of the Municipal Act which relate to building regulations. (4) To make arrangements for metalling a certain length of the kutchra roads every year. (5) To adopt measures to deal effectively with all encroachments upon drains. (6) To provide pucca shallow saucer-shaped side-drains along the principal streets and crowded thoroughfares and lanes. (7) To take steps to gradually ameliorate the condition of the bustis, to have these places efficiently surface drained and gradually opened out, and to make proper conservancy arrangements for them. (8) To do the best to carry out the suggestions made under the head of drainage in the last Inspection Report. (9) To fully exercise the powers given by law and prevent the drains being further encroached upon, disposing of the existing obstructions in the best way possible. (10) When the platforms over the drains are long, to require their owners to provide man-holes in them at convenient distances. (11) With the provision of an efficient system of drainage, to take steps to improve, as far as practicable, the condition of the house drains. (12) To consider the advisability of extending the filtered water-supply to the whole town as soon as possible. (13) Not to allow the private tanks to be polluted by house drains opening into them and become a source of danger to health. (14) To induce the owners of such tanks as cannot be maintained in proper order, to have them filled up with mud and sand from the river churs during the dry season. (15) After the extension of the filtered water-supply throughout the town, to have those private wells which are filthy and not properly protected from pollution, filled in. (16) To sufficiently strengthen the conservancy establishment

and increase the number of carts and draught cattle, and to have the work of the staff sufficiently closely supervised and full amount of work taken from each man. (17) To compel the people to bring out all house-rubbish and put it on the roadside at stated hours for removal by the conservancy carts, and dispose of the existing accumulations within house enclosures at the cost of the owners. (18) To have all the lanes and by-paths swept every other day, if not daily and the sweepings regularly removed. (19) To provide a sufficient number of barrel-carts for the removal of fluid refuse from houses to the trenching ground for disposal, until such time as the refuse can be discharged into pucca drains. (20) To include the drains within surface cleansing, and thus keep them permanently clean. (21) To have the pig-stys removed beyond the limits of the Municipality. (22) To attend to the recommendations made in the last report regarding the provision of more public latrines at convenient places, and particularly for females. (22) To keep the existing public latrines scrupulously clean and sweet, and to hold the Conservancy Inspector and the Jemadars responsible for their cleanliness. (24) To have broken brick laid down round most of the public latrines, as the cart wheels sink in in wet weather. (25) To put up corrugated iron public urinals in the crowded localities. (26) To adopt measures generally to discourage promiscuous defecation as far as possible. (27) To make sustained efforts to suppress the well-privies and the sundasses, and to oblige their owners to build for themselves proper surface privies. Also to encourage the use of corrugated iron privies of Hornbury's patent. (28) To strictly enforce section 225 of the Municipal Act, and to require the owners of privies that are exposed to public view to have them properly enclosed, whether they are complained against or not. (29) To open more trenching grounds at convenient places. (30) To carry out the trenching system in the manner recommended in the last Inspection Report. (31) Not to relax the efforts which are now being made to gradually get rid of all the gors. (32) To have the conservancy of the Sootrapore market carefully attended to. (33) To require the owners of the other markets to provide these places with proper drains, and take steps generally for improving their condition. (34) To establish a public slaughter-house on a small scale with proper drainage, water-supply and other conveniences, and to have all cattle brought for slaughter inspected by a competent and responsible officer. (35) To require the owners of the private graveyards in which interments have been prohibited to plant them with rapidly-growing trees. (36) To provide, as soon as funds are available, one or two burial-grounds for the convenience of the people living in the east end of the town. (37) To see that the *chupper* which is usually placed over the Mahomedan dead is at least four feet and not 18 inches under the surface of the ground. (38) To fully utilise the provisions of the Compulsory Vaccination Act after it comes into force. (39) To give effect to the suggestions offered in the last Inspection Report for placing registration on a satisfactory footing. (40) To require the municipal servants, such as tax-collectors, overseers, &c., to report births and deaths as a check on voluntary registration. (41) To induce the midwives to give information of all births which they attend.

Action taken on the suggestions :—(1) The public latrines and the urinals are being kept well tarred. (2) A large number of sundasses and well-privies have been closed, and steps are being taken to do away with this evil gradually. (3) Some of the gors have been, and some others are being, filled up. (4) The extension of the filtered water-supply is under the consideration of the Commissioners. (5) Steps are being taken to properly drain wards I and II.

Nasirabad Town—Inspected in August 1886.—The sanitary arrangements of this town were not satisfactory. Foul pits and water-holes abounded all over the place to the detriment of the public health. The drainage and the conservancy arrangements were very defective, and the water-supply was not sufficient for the requirements of the whole community. It was, however, satisfactory to find that the Commissioners were fully alive to their responsibilities and were exerting themselves to remedy the existing defects.

The suggestions were—(1) To continue to devote year after year an equitable share of the income for rectifying the existing defects and placing the town on a proper sanitary footing. (2) To have a certain length of the kutchra roads metalled every year. (3) To make persevering endeavours to fill up all the pits and excavations in the manner recommended in the last Inspection Report. Also to connect them with one another and with the drainage outlets. (4) To annually set apart a small portion of the income for filling in some of the pits during the cold weather with earth from the river bed. (5) To remove the silt from the drains in such a manner so that the proper slopes for drainage are not interfered with. (6) To begin constructing pucca drains and to carry out the scheme gradually, and to see that the drains are shallow and of saucer shape. (7) To come to an understanding with the civil authorities regarding the bunding up of water for agricultural purposes in the khals leading to the *bheels*. (8) To fully exercise the powers conferred on the Commissioners by the Municipal Act of 1884 for removing all obstructions to and encroachments upon drains. (9) Not to allow the weeds taken out from the tanks to be heaped up on the banks, but to have them entirely removed and used in filling up hollows. (10) To prevent the bank of the river being resorted to for purposes of nature. Also to have the private privies along the bank closed or removed to a safe distance, or with the assistance of Part IX of the Municipal Act kept perfectly clear by the sanitary establishment. (11) To give effect, as far as practicable, to the recommendations made in the last Inspection Report under the head of conservancy. (12) Not to permit cow and cattle ordure to be collected within house enclosures, but to have it either converted into cakes for fuel or deposited in the fields as manure. (13) To keep the public latrines scrupulously clean and sweet, and to require the overseer

to pay more attention to them, so as to make them popular. (14) To have the holes in the new pucca latrine, through which the faeces drop, more elongated to prevent their edges getting fouled. (15) To adopt in place of masonry structures the iron latrines called Hornbury's pattern and sold by Messrs. Burn & Company of Calcutta. (16) With the increase in public latrine accommodation to endeavour to put down promiscuous defecation. (17) To have the trenches in which night-soil is buried, dug only one foot deep and one foot wide and a foot or eighteen inches apart. Also to cause the trenches to be dug as required, so that they may not fill with water in the rainy season. (18) To keep all places where food is sold scrupulously clean, and permit no accumulation of filth of any kind in them. (19) To make full use of section 250 of the Municipal Act, and try to prevent the sale of unwholesome food or drink. (20) To see that in the public graveyards bodies are buried in rows, a certain space allotted to each grave; and that in the case of the Mahomedans the graves are dug sufficiently deep, so that the *chupper* may be placed at least four feet, and not one cubit only as at present, below the surface of the ground. (21) To prohibit all intramural burials. (22) To have the clothes, mats, &c., of the deceased always destroyed by fire. (23) To require the owners of the serais to remedy the defects pointed out. Also not to allow the fluid refuse from these places to flow into the river, but to have it removed in barrel-carts to the trenching ground for disposal. (24) To fully utilise the provisions of the Compulsory Vaccination Act after it comes into operation. (25) To take steps to carry out the suggestions offered under the head of registration in the last report. (26) To require the tax-collectors and the overseers to interest themselves in reporting births and deaths.

Comillah Town—*Inspected in August 1886.*—I went round the town with the Vice-Chairman, who seemed much interested in its sanitary concerns. Very few improvements were seen to have been effected since it was last visited in December 1880. While, on the other hand, there were many serious defects, particularly under the heads of water-supply and conservancy, which required early rectification. Intramural burial was permitted to be carried on to a considerable extent to the detriment of public health. Foul pits and water-holes and tanks were very numerous; in fact nearly half the area is covered by them. Jungle was at places very great and prevented free passage of air throughout the crowded parts of the town. In short, the sanitary arrangements of Comillah were far from being satisfactory.

The suggestions were—(1) To allot year after year a legitimate share of the income for placing every part of the town on a properly sound sanitary footing. (2) To strictly enforce the sections of Part VI of the Municipal Act which refer to building regulations. (3) To have the sanitary clauses of the above law, as far as they are in operation, administered with the desired activity. (4) To ask the Maharaja to allow his tenants to use free of cost the mud and sand from the river bed to fill up all low-lying patches of land in their occupation. (5) To have jungle as far as possible kept down, and when it is dealt with, to have it uprooted and not cut only. (6) To have the drains regularly looked after by the municipal staff, and obstructions or accumulations of leaves causing blocks regularly removed. (7) Not to allow jungle to grow in the drains so as to impede the flow of water. (8) To gradually carry out a proper system of pucca drains, parts being done every year. (9) Wherever pucca drains are made, to cause all house drains to be connected with them. (10) To have small trees growing on the inward slope of Rani Dighi removed. (11) To have one or two of the better tanks that are conveniently situated, protected from pollution and reserved for drinking. (12) To carefully consider the expediency of constructing a small sluice in the embankment for introducing the flood water of the river Goomtee into as many of the tanks as possible. (13) To adequately strengthen the conservancy establishment and increase the number of carts. (14) To have the principal streets swept at least twice, and the lanes and by-paths once a week, and the sweepings properly removed. (15) To provide wheel-barrows for the proper conservancy of the narrow lanes. (16) To make proper arrangements for the regular removal of fluid refuse at least from the houses in the crowded localities. (17) Not to allow cow and cattle ordure to be accumulated within house premises, but to have it either converted into cakes for fuel or removed to the fields as manure. (18) To provide more public latrines at convenient places, and to adopt Hornbury's patent iron latrines in place of the ordinary pucca structures; put up a few of them for the exclusive use of females, and have them attended to by methranis only. (19) With the gradual increase in public latrine accommodation, to make persevering endeavours to put down promiscuous defecation. (20) To carry out the trenching system properly. Also to establish one or two small additional trenching grounds for use for places distant from the present ground. (21) To require the owner of the market to remedy the defects in it, and take steps generally for improving its condition, as well as that of the *hât kholas*. (22) To establish a slaughter-house on a small scale with proper drainage, water-supply, and other conveniences, prohibit the killing of cattle at any other place, and allow none but healthy cattle to be killed for food consumption. (23) To immediately close the private graveyards that are situated within compounds of houses, and prohibit further interments in them, and to require their owners to plant them with trees. (24) To provide a public burial-ground at the outskirts of the town in place of those to be closed. (25) To see that bodies are buried deeply, the *chupper* being at least four feet below the surface of the ground. (26) To take steps generally to obtain accuracy in registration, and to induce the midwives to give information of all births at which they attend.

Action taken on the suggestions:—It was resolved—(1) To purchase two wheel-barrows and employ two coolies to remove rubbish and refuse from the narrow lanes. (2) To have the

principal streets swept twice, and the lanes and by-paths once a week, and the sweepings regularly removed. (3) To provide two barrel-carts for the purpose of daily removing the fluid refuse from the hostels and the Nannardighi quarter which is comparatively more crowded. (4) To forbid the *colooas* (oil-manufacturers) to accumulate cow or cattle ordure in places other than those for which a license may be granted to them under section 261 of the Municipal Act. (5) Instead of indenting for an iron structure of Hornbury's pattern, to construct an ordinary latrine in the bazar quarter. (6) To provide separate latrine accommodation for the two sexes when additional public latrines are erected in future. (7) To select another trenching ground in another quarter of the town, sufficiently distant from the inhabited portion. (8) To cause an enquiry to be made as to the advisability or otherwise of recalling the licenses granted to several people for burying the dead within private compounds, as well as of providing one or two public burial grounds. (9) To request the Maharaja's agents to improve the condition of the local markets, more specially Chowkbazar. (10) To have some of the minor suggestions carried out by the executive officers of the Municipality.

Julpiguri Town—*Inspected in November 1886.*—This town was found in a somewhat better state than when last visited. Some improvements were noticed to have been effected, the chief being the strengthening of the conservancy establishment; the provision of a trenching ground at a central spot; the introduction of Part IX and some of the provisions of Part VI of the Municipal Act; and the construction of two kutchra roads in the bazar, as well as a big drain at its back. There was, moreover, less jungle and less evidence of promiscuous defecation. The sanitation of the town was, however, far from being satisfactory. Grave defects existed under almost every head of sanitation; but owing to the smallness of the income, the Commissioners were unable to do much to remedy them.

The suggestions were—(1) To try to raise the income. (2) To bring into force a code of bye-laws framed under section 350 of the Municipal Act. (3) To use street-sweepings in filling up hollows and excavations. (4) To require the people to keep their house-lands free from vegetation, and when fires occur, not to permit houses being reconstructed on the existing objectionable principle. (5) To encourage the use of corrugated iron for roofing. (6) To have all encroachments over drains gradually removed, and all future permanent erections carefully watched. (7) To have the drains overhauled and put into effective working order in the cold season when labour is cheap. (8) To have the town properly surveyed, and a systemised scheme of shallow surface drains provided when funds become available. (9) To prohibit the throwing of solid house and kitchen refuse into the nearest convenient jungle, and to require the people in all cases to place such refuse on the roads to be carted away. (10) Not to allow cattle dung to be collected in the town for manure, but to have it removed outside daily, and kept in the fields in places convenient to the owners. (11) To see that the kutcherry latrine is cleaned every morning, and to bring to the notice of the Magistrate the defects in the building. (12) To keep the public latrines scrupulously clean, and not to tolerate the excuse put forward against their use, viz., caste and other prejudices. (13) To adopt Hornbury's patent iron latrines, sold by Messrs. Burn and Company of Calcutta, in place of the ordinary structures. (14) To fully work up the provisions of Part IX of the Municipal Act. (15) To prevent the throwing into the nearest thicket of night-soil from the privies which are not attended to by the municipal mehters, and to take such privies under municipal management under the provisions of Part IX of the Municipal Act. (16) To have the width of the trenches in which night-soil is buried reduced to one foot. (17) To require the owner of the market to make arrangements for obviating overcrowding, to remedy its defective drainage, and to keep it scrupulously clean. (18) To provide a slaughter-house as suggested in the last Inspection Report. (19) To have the order prohibiting defecation on the banks of the Kurla, as well as the throwing of faecal matter into it, energetically carried out, and the offenders regularly prosecuted. (20) To have the banks of the river divided, convenient portions being reserved exclusively for the taking of water for drinking, and portions appointed for bathing and washing of clothes; the latter being lower down the river. (21) To provide the well in the bazar with a pump and bucket for raising water, and not to permit the surroundings of the pucca wells, which are largely used for drinking and culinary purposes, to become filthy. (22) To provide, whenever funds are available, properly constructed and conveniently situated public wells, or to induce the people when sinking new wells to dig them in localities where they will not be liable to contamination from cattle-sheds, &c. (23) To observe order in digging the graves as recommended in the last report. (24) To exercise, each Commissioner in his own ward, an energetic and sustained supervision over registration, and to fully utilise the provisions, particularly the penal ones, of the Compulsory Registration Act, a person being specially appointed to detect and report for punishment all people who evade the provisions of the law.

Action taken on the suggestions:—It was reported that owing to want of funds the recommendations could not be adopted in their entirety. Something, however, had been done, and more was in progress.

Dinagepore Town—*Inspected in November 1886.*—This town was found in much the same state as before. Its health status was bad. There were yet many grave defects that demanded early rectification, prominent among them being the want of a proper system of drainage, to which no doubt the persistent prevalence of fever in the town is mainly ascribable. I was, however, glad to notice that the Commissioners were paying attention to the sanitary interests of the place and were trying to ameliorate its condition.

The suggestions were—(1) To introduce, without further delay, Parts VI, IX and X of the Municipal Act which contain important sanitary regulations. (2) To have the existing bye laws that have been framed under the old Municipal Act altered so as to be in accord with the present law. (3) To gradually metal the kutchra roads. (4) To fill up pits and hollows as far as practicable, and carefully watch and prevent the making of future excavations. (5) To encourage the people and assist them by granting small contributions to fill up bad hollows containing stagnant water. (6) To remove jungle, as far as possible, by uprooting and not cutting down. (7) To consider the desirability of lighting the streets. (8) To encourage the employment of tiles and corrugated iron in roofing houses. (9) To see that in cleaning the drains the earth taken out is not placed on their sides, and to remove all vegetation from the new outlet past Mr. Beadon's house. (10) When the proposed drainage scheme is taken in hand, to induce all house-owners to convert the house drains into pucca ones and connect them with the public drains. (11) To appoint an additional jemadar to supervise the conservancy establishment. (12) To provide more public latrines at convenient places, and in doing so to adopt, in place of the ordinary latrines, the use of the iron structures of Hornbury's pattern sold by Messrs. Burn & Company of Calcutta. (13) With the increase in public latrine accommodation, to adopt measures to put down promiscuous defecation. (14) To take steps to introduce Part IX of the Municipal Act, and take over all the private privies under municipal management. (15) To undertake the cultivation of the trenching grounds to demonstrate to the people the value of night-soil as manure. (16) To request the Maharaja to remedy the defects pointed out in the Chowkbazar. (17) To see that both the markets are kept in a tidy condition, and to have the sweepings carried in wheel-barrows for removal by the conservancy carts, and to expedite the contemplated provision of drains in the markets. (18) To provide an urinal at Chowkbazar. (19) To have such of the private tanks as have now become mere ditches and hollows containing foul water gradually filled up. (20) To have all middens and house refuse removed to a safe distance from the tanks. (21) To have the ground around at least the public wells sloped so as to allow of the spill water running to the nearest drain. Also to supply them with pumps or buckets. (22) To adopt stringent measures to prevent the banks of the rivers Gogra and Purnabhava being fouled. (23) To supplement the present water-supply by the provision of a sufficient number of deep and conveniently situated wells, and the reclamation of some of the best tanks. (24) To abandon the Mahomedan burial-ground on the roadside across the Gogra, and to provide another in its place, and to adopt in the new ground the plan of interments suggested in my last report. (25) To see that the burial-ground for the Christians is well cared for by the *mali* in charge. (26) To have the clothes, mats, &c., of the deceased destroyed by fire along with the body. (27) To carefully work the provisions of the Compulsory Vaccination Act which has been, or will shortly be, introduced. (28) To fully utilise the provisions of the Compulsory Registration Act, and to re-appoint the person who was entertained to detect evasions of its requirements. (29) To require the overseer, the tax-collector and the *buxi* to pay closer attention to this part of their duty. (30) To accord, each Commissioner in his own ward, interested and sustained co-operation in placing registration on a satisfactory footing.

Rungpore Town—Inspected in November 1886.—The large number of sanitary improvements that were found to have been carried out since last inspection, or during about a single year, reflected much credit on the Commissioners. It was evident that the sanitation of the town was being carefully looked after. Much, however, yet remained to be done to place the town on a satisfactory sanitary footing. The drainage, though considerably improved, was still very defective, and the arrangements under the head of conservancy were most unsatisfactory, and in some cases highly objectionable. Other insanitary conditions requiring immediate attention abounded and helped to render the place unhealthy.

The suggestions were—(1) To continue to rectify the defects that yet exist. (2) To require the methers to give a month's notice before quitting service. (3) To act upon the regulations relating to the carrying on of offensive and dangerous trades. (4) To metal the kutchra roads as funds become available. (5) To provide cross roads at places where they are wanted. (6) On the occurrence of fires to permit no reconstruction of houses on the old objectionable plan. (7) To see that the fall in the drainage channels is sufficient to allow of a quick current. Also to improve the levels of the subsidiary drains. (8) To enlarge the bridges, such as Girdhari Lal Roy's bridge, and have their floors lowered and kept free from silt and jungle. (9) To provide a culvert under the central road close to Dhaphbar. (10) To have the tanks and hollows connected, as far as practicable, with the drainage system. (11) To extend the saucer drain in Mahigunge to both sides of the principal street and to some of the side streets. (12) To keep the existing drains clear of rubbish, sweepings, silt and growing vegetation, and in proper working order. (13) To adequately strengthen the conservancy establishment, increase the number of carts and barrows and have the establishment properly supervised. (14) To make arrangements for properly disposing of fluid refuse from houses, and prevent its being thrown into the nearest convenient pits and hollows. (15) To keep the public latrines in good repair, and provide them with drains to carry off washing water. (16) To provide more public latrines at convenient places, and in doing so to introduce the iron structures of Hornbury's patent to be obtained from Messrs. Burn and Company of Calcutta. (17) To induce the people to construct privies for themselves on an approved plan. (18) To take all the private privies under municipal management, levy a fee for the service rendered, and fully utilise the provisions of Part IX of the Municipal Act. (19) With the increase in public latrine accommodation, to try to check promiscuous defecation. (20) To provide some

public urinals. (21) To have all the night-soil of the town trenched, and prohibit its being disposed of otherwise. (22) To carry out the trenching system properly, the trenches being dug in lines one foot wide and one foot deep, and only so much night-soil put into them as will admit of a layer of earth being placed over it. (23) To provide a properly-constructed and well-supervised municipal market. Also to construct a slaughter-house as suggested in the last report. (24) To have the European medicinal drug shops registered, and see that certificated compounders are attached to them. (25) To supply the public wells with pumps and buckets for raising water, and prohibit the dipping of private vessels into them. (26) To excavate no new tanks and have the existing ones filled up. (27) To prohibit the appropriation of the clothes, pillows, &c., of the deceased by the *chamars*, and have them invariably burnt along with the body. (28) To open another office at Mahigunge for the registration of births and deaths. Also to continue to manifest the desired interest in the matter, and to appoint a person to detect evasions of the provisions of the Compulsory Registration Act.

Bogra Town—*Inspected in November 1886.*—The sanitary condition of this town was unsatisfactory. Grave defects existed under almost every head of sanitation. The drainage was very defective, and the conservancy arrangements as bad as possible. The water-supply for drinking was found to run short during the hot and dry season, and was moreover generally of an inferior quality. There was dense jungle at places which prevented free perfusion of air. I was, however, glad to notice that something had been done since last inspection to improve the health status of the place, and that the Commissioners were fully sensible of its requirements, and were willing to gradually meet them.

The suggestions were—(1) To employ Ranigunge pipes in the place of bamboo bridges which soon fall into disrepair. (2) To impress upon the people the advantages of using corrugated iron for roofing when building new houses in crowded localities. (3) To see that the surroundings of the houses are kept clean and tidy, and make every effort to uproot and check the growth of low jungle. (4) To prevent the casting of rubbish into the drains, and to steadily attend for a few years to the uprooting of jungle from them. (5) To consider the desirability of providing a proper system of pucca surface drains, and making a beginning in this direction at once, and extending the scheme year after year, as funds become available. (6) If the above suggestion is carried out, to take steps to have all house drains connected with the public drains. (7) To adequately strengthen the conservancy establishment, and increase the number of carts, bullocks, &c. (8) To have all the streets swept daily, and see that when the proposed hand-barrows are provided, the lanes and by-paths also receive this attention. (9) To fully utilise all sweepings in filling up pits and hollows when they are at a distance from the habitations of the people. (10) To prevent the collection of house and kitchen refuse—solid and liquid—in pits close to the houses, and see to their proper disposal. (11) To supply an additional gumlah to each cell of the public latrine. (12) To bring to the notice of the Magistrate the faulty construction of the kutcherry latrine, owing to which no gumlah can be used in it. (13) To construct more public latrines at convenient places, and set apart some for the exclusive use of females. Also to give a trial to one or two of Hornbury's patent iron latrines, obtainable from Messrs. Burn & Company of Calcutta, before providing latrines of the ordinary type. (14) To take the necessary steps to introduce Part IX of the Municipal Act without delay, and when this measure comes into force, to require the owners of well-privies to close them, and provide in their place properly-constructed surface privies on an approved plan, and to undertake the management and cleansing of all private privies, and levy a fee for the service rendered. (15) To enquire from the Commissioners of any of the following municipalities, viz., Burdwan, Howrah, Hugli, Darjeeling, Dacca, Naraingunge or Comillah, as to the *modus operandi* observed by them in working Part IX of the Municipal Act. (16) To prohibit the throwing of the night-soil from the private privies into hollows or jungle, and have it trenched in the ground set apart for the purpose. (17) To provide some more trenching grounds at convenient places, and carry out the trenching system in the manner recommended by me. (18) To take steps, as soon as possible, to introduce Part X of the Municipal Act. (19) To consider the advisability of providing a slaughter-house on a small scale as suggested in my last Inspection Report. (20) To cause all brushwood and trees to be removed from the banks of some of the private tanks, and all weeds from the water. (21) To have the pucca pillars and arches at the tank on the Mahtidally road repaired. (22) To induce the people to convert the kutchha unprotected private wells into deep pucca ones. (23) To have the wells situated in proximity to well-privies and cattle-sheds closed. (24) To move the Magistrate in the matter of having the dried-up portion of the bed of the river Karatoya near Govindgunge opened up with the help of some of the leading *zomindars* of Bogra and Rungpore. (25) To have the clothes, pillows, &c., of the deceased burned with the body and not buried. (26) To fully utilise the provisions of the Compulsory Registration Act, and enforce its penal clauses. (27) To specially appoint a person to detect and report evasions of the provisions of this law by the people. (28) To induce the tax-collectors, overseers, &c., to pay more careful attention to ascertaining and reporting the occurrences of births and deaths.

Rampore Beaulah Town—*Inspected in November 1886.*—The general condition of this town was far from being satisfactory. It was found to be so riddled with filthy tanks and water-holes, and, except in the riverside, so devoid of a good water-supply, that a high standard of health could not be looked for. The conservancy arrangements were very defective, and in some instances highly objectionable, and some of those under the head of markets and slaughter-houses were so bad as to merit the strongest condemnation. There

were also several other defects which called for early attention. I was, however, glad that the improvements effected since last inspection, though not commensurate either with the requirements of the place or with the means at the disposal of the Commissioners, indicated that the Commissioners were not unmindful of its sanitary concerns.

The suggestions were—(1) To annually devote, in accordance with the orders of Government on the subject, the greater portion of the amount over Rs. 3,200 set free by the Municipality having been relieved of police charges, as well as an equitable share of the remaining income for rectifying the existing defects and placing the town on a satisfactory sanitary footing. (2) To consider the expediency of slightly raising the taxes. (3) To metal every year a certain length of the kutchha roads. (4) To adopt the use of Ranigunge pipes for small cross-drains and drains under house entrances. (5) To ask the dwellers in the civil station to keep their compounds free from jungle. (6) To persevere in filling up foul pits and hollows, and to do it with sand from the river bed, a few every year. (7) To have all the hollows and depressions into which river water can be conveyed connected with one another. (8) To have the holes that are intended to be filled in with rubbish and street-sweepings first dewatered, and to take up only so many of them at a time as could be dealt with within a short period. (9) To make a beginning in the direction of providing pucca shallow saucer-shaped drains in the crowded localities and along the important streets, and to extend them gradually, a certain length being done every year. (10) To obliterate such of the tanks as are filthy or useless or cannot be maintained in proper order. (11) To acquire one or two tanks and have them re-excavated, properly protected from pollution and inward drainage, and exclusively set apart for drinking. (12) To consider the desirability of providing one or two of Norton's tubular wells in inland places to test the quality of the water obtained. (13) To give effect, as far as practicable, to the suggestions offered under the head of conservancy in the last Inspection Report. (14) To increase the number of rubbish carts. (15) To cause greater activity to be shown by the Conservancy Department, which does not do full work. (16) To remove the pigstys beyond the limits of the Municipality. (17) To provide more public latrines at convenient places, and to have those for females entirely apart. Also to try a few of Hornbury's patent iron latrines sold by Messrs Burn and Company of Calcutta. (18) To keep the public latrines scrupulously clean and sweet, and to hold the Conservancy Inspector responsible for their cleanliness. (19) To at once stop the obnoxious practice of throwing night-soil into jungle, &c., and systematically prosecute the offenders, and to have all night-soil from the latrines which are attended to by private methers removed and trenched either in the grounds set apart for the purpose, or at any other place outside the town. (20) To persevere with the removal of privies from the banks of tanks. (21) To take steps to introduce Part IX of the Municipal Act to the whole town. (22) To keep the Sahib Bazar scrupulously clean as to removal of rubbish, state of drains, and repair of road, and never to allow the latrine attached to it to become offensive. Also to require the owners of this as well as of the other market to make proper conservancy arrangements for these places, and to gradually make their drains and floors pucca. (23) To consider the question of prohibiting the sale of unwholesome food or drink. (24) To carry out, as soon as possible, my recommendations under the head of slaughter-houses made in last year's report. (25) To make further inquiries for a site for a proper slaughter-house somewhere out of the town to the north. (26) To have the offal, &c., buried in the trenching ground and not cast into the river. (27) To give effect to my recommendations made in the last report regarding the burial-ground at Ramchunderpore. (28) To generally suppress the private graveyards and establish, if required, another public ground at some convenient place. (29) To insist upon deep burials, and see that the *chupper* is always four feet below the surface of the ground. (30) To restrict within the narrowest possible limits the practice of burying the dead in compounds of houses. (31) Not to permit nor tolerate the appropriation in some cases by the domes of the clothes, pillows, &c., of the deceased. (32) To have the Compulsory Vaccination Act administered and enforced in all its particulars, and to make full use of its penal provisions. (33) To advantageously utilise the agency of the tax-collectors for reporting births and deaths as a check on voluntary registration, and to induce the midwives to give information of all births at which they attend.

Action taken on the suggestions.—The recommendations made are under the consideration of the Commissioners.

Pubna Town—*Inspected in November 1886.*—I was very glad to notice the large number of improvements carried out since my last visit in November 1885, and the firmness in administration shown with regard to the introduction of important sanitary measures in the face of considerable opposition from the people. There were, however, still many grave insanitary conditions which required urgent attention. The great nuisance of foul pits and water-holes had yet to be dealt with. The drainage was extremely defective and nearly in the primitive state, and the conservancy arrangements, though considerably improved, were not yet satisfactory. The question of water-supply was daily assuming a serious aspect by the rapid silting up of the river Ichamutty, and had still to be grappled with.

The suggestions were—(1) To accord most careful consideration to the matter relating to the falling off in the revenue. (2) To continue to devote year after year an equitable share of the income for rectifying the existing defects and placing the town on a proper sanitary footing. (3) To make full use of the important sections 227 and 232 of the Municipal Act. (4) To metal a certain length of the kutchha roads every year. (5) To widen the culverts and bridges across several of the roads. (6) To have as many of the holes as possible connected by channels with one another and with the river. (7) To offer the local

zemindar an annual sum for permission to take sand and earth from the river bed. (8) To consider the desirability of acquiring some of the hollows that are conveniently situated and converting them into tanks, taking up one every year, and utilising the earth which would then become available for filling in smaller holes around. Also to induce the rich owners of some of the pits to treat them similarly. (9) To solicit the Executive Engineer's assistance for the preparation of a drainage scheme for the town, and after it is done, to proceed with such parts as funds permitted, year by year, until it was completed. (10) To require the owners of the platforms over the drains in the bazar to provide man-holes in them at convenient distances to enable the methers to properly clean the drains. (11) To guard against the people washing their clothes in the municipal tank set apart for drinking. (12) To try to prevail upon the wealthier classes of the people to re-excavate some of the filthy tanks belonging to them, or to fill these up with mud and sand from the river churs during the dry season. (13) To provide around the mouths of all the municipal wells good protective masonry parapets and platforms surrounded by a pucca shallow saucer drain having connection with another drain to carry off spill water to a good distance from the wells. (14) To prohibit the dipping of private vessels into the public wells. (15) To consider the advisability of removing the *chamars* from the neighbourhood of the newly-built pucca wells. (16) To give effect, as far as possible, to the suggestions offered under the head of conservancy in my last Inspection Report. (17) To supply one or two barrel-carts for the removal of fluid house and kitchen refuse to the trenching ground for disposal. (18) To construct, as proposed, one or two public latrines every year till their number is sufficient for the requirements of the town. (19) To bring to the notice of the civil officer of the station the need for a latrine and a urinal for the public offices here. (20) To deal vigorously with the well-privies or sundasses as discovered, and require their owners to construct surface privies in their place. (21) To try to obtain by exchange a plot of land for trenching purposes more conveniently situated than the present ground. (22) To cause the other fish market to be provided with masonry drains and floors, as well as a good supply of water. Also to require their owners to gradually improve the general condition of these places. (23) Not to lose sight of the question of establishing a public slaughter-house which was suggested in the last report. (24) To see that the proposed burial-ground for the Mahomedans is situated at the outskirts of the town well away from the inhabited quarter. (25) To early attend to the recommendations made in the last report under the head of disposal of the dead and relating to the order of burial and the depth of the graves. (26) To have the road from Tartibad leading to the municipal graveyard raised. (27) Not to allow the clothes, pillows, &c., of the deceased to be left on the bank of the river, but to have these in every case completely destroyed by fire along with the body. (28) To at once stop the reprehensible practice of throwing uncremated or partially cremated bodies, as well as the Hindu pauper dead, into the river. (29) To carry on vaccination actively. (30) To require the registrar to devote a few hours daily to go round the various wards alternately and try to detect evasions of the requirements of the Compulsory Registration Act. (31) To utilise the agency of the tax-collectors and the overseers to obtain reports of births and deaths as a check on voluntary registration. (32) To pay proper attention to collecting the birth statistics, and to induce the midwives to give information of the births which they attend.

Jessore Town—*Inspected in November 1886.*—There had been very little advance in the sanitary condition of this town since last inspection. The few sanitary works that were seen to have been carried out were quite insignificant, and moreover incommensurate with the length of period—nearly two years—during which they had been accomplished. In fact almost the same defects that had been noticed before were still observable.

The suggestions were—(1) To allot year after year a fair share of the revenue for rectifying the defects that yet exist as well as for carrying out permanent sanitary improvements. (2) To see that the municipal laws and bye-laws are strictly administered. (3) To have a certain length of the kutchra roads metalled every year. (4) To keep down jungle as much as possible, and be careful not to allow the cut and rooted-up plants to rot on the spot, but either to utilise them in filling up pits or holes, or to burn them on the ground. (5) Not to allow rubbish to be cast into the drains. (6) To properly repair the pucca drains in the bazar. (7) To gradually extend the system of pucca shallow saucer-shaped drains, particularly in the crowded localities and along the principal streets, parts being done every year. (8) To have the tanks set apart for drinking properly protected from pollution. (9) To see that the leaves of the trees near the Lal Dighi do not find their way into the water. (10) To have the latrines that are within 50 feet of some of the public tanks removed to a safe distance. (11) To keep more tanks clean for drinking supply, and permit no inward drainage to them. (12) To induce the rich owners of some of the foul tanks to have them redug, thoroughly protected from pollution, and reserved for drinking, utilising the earth which would then become available for filling in smaller holes around. (13) To give early effect to the suggestions offered under the head of conservancy in the last Inspection Report. (14) To have the conservancy establishment strictly supervised by the overseer, and the proper removal of night-soil and rubbish ensured. (15) To properly remove the jungle and the accumulation of rubbish and filth about the houses in the town. (16) Not to allow cow and cattle ordure to be accumulated within house premises, but to have it either converted into cakes for fuel or deposited in the fields as manure. (17) In place of the ordinary latrines to adopt the iron ones of Hornbury's pattern sold by Messrs. Burn and Company of Calcutta. (18) To regularly tar the gunlahs, the drains, and the walls of the public latrines up to three

feet high. (19) To strictly require the metherers to bring all night-soil as well as fluid refuse from the privies to the trenching ground for burial. (20) To cultivate the present trenching ground with plantains. (21) To see that the private market is gradually provided with pucca floors, and to require the owners of the bi-weekly market-place to keep it scrupulously clean. (22) To construct a public slaughter-house on a small scale with proper drainage and water-supply and other conveniences, and to prohibit the killing of cattle at any other place. Also to allow none but healthy cattle to be killed for food consumption. (23) To represent to the priest in charge to keep the Roman Catholic burial-ground free from jungle. (24) To at once stop the practice of burying at random, and to always insist upon burials in lines with fixed distances between each grave and each row of graves. (25) To see that the *chupner* in the Mahomedan graves is placed at least four feet below the surface of the ground. (26) To fully utilise the provisions of the Compulsory Vaccination Act, particularly its penal clauses. (27) To make full use of the Compulsory Registration Act, and specially appoint a man to detect and report all omissions of the requirements of the law. (28) To require the municipal servants, such as overseers and tax-collectors, to report births and deaths as a check on voluntary registration. (29) To adopt the hath-chitti system, which is in vogue in several other towns in Bengal. (30) To induce the midwives to give information of all births which they attend.

Khulna Town—*Inspected in November 1886.*—This town remained in almost the same condition as when inspected some two years ago. I did not observe any improvement in drainage or conservancy. Want of funds no doubt seriously hampered the endeavours of the Commissioners to do much in this direction. It was, however, evident that the Commissioners were interesting themselves in the welfare of the town entrusted to their care.

The suggestions were—(1) To devise some means for increasing the municipal revenue. (2) To take steps now to properly lay out this new municipality. (3) To strictly enforce section 232 of the Municipal Act, and prevent the making of excavations for taking earth for house plinths, or storing offensive matter therein. (4) To see that the sanitary clauses of the Municipal Act are administered with the desired activity and minuteness. (5) To make arrangements for metalling a certain length of the kutcha roads every year, and if the funds permit, to take opportunities on the occasion of fires, &c., to open out new lanes through crowded parts, and to widen the existing narrow ones. (6) To request the Railway Company to take action in the matter of draining the very extensive lands held by them, and more particularly those near the station. (7) To carefully keep the present drains in order, make no alteration of levels by digging out too deeply or irregularly, and prevent the sweepers from sweeping rubbish into them. (8) To obtain a copy of the scheme of improvement in regard to the town which was drawn up by Colonel B. Lovett, Superintending Engineer to Government, and gradually provide the necessary drains, &c., some progress being made every year. (9) To induce the owners of some of the best tanks to have them properly protected from pollution and reserved solely for drinking purposes. (10) To take steps to have the tank upon Government land near the brick-field redug, if possible, during this season. (11) To strictly prohibit defecation on the banks of the river. (12) If the Commissioners cannot afford the cost of providing proper tanks, to construct every year one or two pucca wells at convenient places, protect them from pollution, and exclusively assign them for drinking. (13) To carry out, as far as possible, the suggestions offered under the head of conservancy in the last Inspection Report. (14) Not to allow cow and cattle ordure to be accumulated within the compounds of houses, but to have it either converted into cakes for fuel or deposited in the fields as manure. (15) To provide latrine accommodation near the railway station, the kutchery and the school, and to adopt the use of the iron structures called Hornbury's patent and sold by Messrs. Burn & Company of Calcutta. (16) To take early steps for introducing Part IX of the Municipal Act in the town proper. (17) To provide a trenching ground within easy reach of the privies from which the soil is to be removed to it, and to adopt and properly carry out the trenching system. (18) To consider the desirability of improving the sanitation of the bazar by taking up the river front and running a road along it as before recommended. (19) To have all unwholesome sweetmeats and other articles of food that are condemned and ordered to be destroyed, buried at some convenient place instead of being thrown into the river. (20) To no longer delay the carrying out of the recommendations made under the head of disposal of the dead, as far as burials were concerned, in the last Inspection Report. (21) To strictly prohibit the practice of throwing uncremated or partially cremated bodies into the river. (22) Not to allow the clothes, pillows, &c., of the deceased to be left on the bank of the river to be swept away by the tide, but to get it destroyed by fire in every case along with the body. (23) To take steps to introduce the Compulsory Vaccination Act. (24) To bring the Compulsory Registration Act into force, and after this is done, to fully utilise its provisions, specially the penal ones. (25) If the funds permit, to appoint a man specially to look after registration. (26) To require the tax-collectors to report births and deaths as a check on voluntary registration. (27) To adopt the hath-chitti system which is in force in several towns in Bengal.

Action taken on the suggestions.—It has been resolved to carry out the suggestions as far as funds permit.

Barisal Town—*Inspected in November, 1886.*—This town had considerably improved since last visit, chiefly in the direction of opening out the drains, connecting them with tanks, and thereby allowing the tidal water free passage backwards and forwards, so that there was no stagnation or decomposition in much of the water throughout various parts. It appeared

to have been suffering much less than neighbouring places in the district from a severe autumnal fever, and moreover the fever here was unattended with mortality, which was heavy in the district. This might have arisen from the action taken by the Commissioners with regard to drains and tanks. I had much pleasure in commending what had been done and the interest shown in improving the health status of the place. Barisal, however, still teemed with grave insanitary conditions which must be attended to before the town could be placed on a proper sanitary footing.

The suggestions were—(1) To devote annually a much larger proportion than only 1·47 per cent. of the income to rectify the sanitary defects which yet exist and generally carry out permanent sanitary works. (2) To fully utilise, after their extension to the town, the sections of Part VI of the Municipal Act which bear on building regulations. (3) To clear all jungle from the sides of the public roads and drains, and to require house holders to keep their holdings clear, explaining to them that cultivation of the ground as gardens is the best method of doing so. (4) To have the large excavation, on the bank of which stands the Kotwali latrine, indirectly connected with the river. (5) To consider the advisability of annually setting apart a small portion of the revenue for filling in one or two of the hollows with mud and sand from the river *churs* during the dry weather. (6) To acquire a few of the excavations conveniently situated, and convert them into tanks for drinking purposes, and to utilise the earth which would then become available for filling in some of the smaller holes around. Also to induce the rich owners of some of these to treat them similarly. (7) To prosecute persons found casting rubbish and branches into public drains. (8) To have the pucca drain, which is to be made on each side of the chief bazar street, shallow and saucer-shaped, and allow no encroachments over or beyond it. (9) To gradually extend this sort of pucca drain throughout the town in the crowded localities, parts being done every year. (10) Wherever pucca drains are provided, to see that all house drains have pucca connections with them. (11) To reserve for drinking some more tanks conveniently situated and containing good water. (12) To have the privies situated on the banks of the khalls or of tanks communicating with them removed, wherever possible, to a safe distance, and the "gumlah system" much more closely supervised than at present. (13) To require the owners of filthy tanks either to maintain them in proper order or to have them filled up. (14) To sufficiently strengthen the conservancy establishment. (15) To provide barrel-carts for the removal of fluid refuse from houses to the trenching ground for disposal, until such time as it can be discharged into pucca shallow public drains. (16) To properly dispose of the urine and litter from the cow and other cattle-sheds, and not to allow them to accumulate and rot within house premises and find their way during the rains into tanks and khalls. (17) To have the latrines for females quite apart from those for males, and attended to by methranis only. (18) To keep the public latrines scrupulously clean and sweet. (19) To strictly work Part IX of the Municipal Act, and at once put an end to the filthy condition of the private privies. (20) To persevere with the removal of the privies from the banks of the tanks and khalls. (21) To seriously consider the expediency of collecting all night-soil on board one or two boats, and its discharge into the middle of the river at ebb tide. (22) To require the owners of both the markets to attend to the defects pointed out, and to keep these places quite clean. Also to have the daily market gradually provided with pucca shallow saucer drains. (23) Not to lose sight of my recommendations made under the head of slaughter-houses in the last Inspection Report. (24) To cause the *chopper* in the Mahomedan graves to be placed at least four feet under ground, and to require the chowkidar in charge of the graveyard to see that this is always observed. (25) After the introduction of the Compulsory Vaccination Act, to more actively carry on vaccination than at present. (26) To fully utilise the Compulsory Registration Act, specially its penal clauses. (27) To require the registrar to go round the various wards alternately for a few hours every day, and detect all omissions of the requirements of the law and bring up the offenders for punishment. (28) To require the municipal servants, such as overseers and tax-collectors, to report the events as a check on voluntary registration. (29) To introduce the hath-chitti system which has been adopted in several towns in Bengal, the receipts granted for deaths reported being required to be made over to the persons who are in charge of the burial and burning-grounds.

Howrah Town—Inspected in December 1886.—The Chairman, Dr. Pilcher, and the municipal overseer generally accompanied me during my inspections. I was much disappointed, returning after two years, to find that few permanent sanitary works—works which the town is greatly in need of—had been carried out since last visit. Grave defects requiring urgent attention existed under almost every branch of sanitation. The bustis were generally in a very insanitary state, and constituted a standing menace to public health. The drainage was defective, and the most important and pressing question of water-supply seemed to have received no attention. In fact much must yet be done to put the town on a sound sanitary footing.

The suggestions were—(1) To devote year after year a fair and equitable share of the income to rectify the existing defects and place this important town on a thoroughly sound sanitary footing. (2) To fully utilise the sections of Part VI of the Municipal Act which relate to building regulations, and prevent the crowding together of huts in the bustis without proper provision for drainage or ventilation, or facilities for scavenging. (3) To cease to grant licenses for brick-fields within the limits of the Municipality. (4) To have the bustis efficiently surface-drained, and their conservancy properly attended to, and to provide them with a good supply of wholesome water, as well as with sufficient latrine accommodation.

Also to construct good roads through them. (5) To consider the desirability of improving the land west of the busti to the north of the Seebpore Jute Mill (Apear's) by converting one of the large excavations into a deep tank, and using the earth obtained to filling in other shallower ones. (6) After roads are run through the improved bustis, to require the landlords to keep them in such repair as will admit of scavenger carts using them. (7) To entertain a regular staff of drain-coolies told off to each division of the town, and again so sub-divided that the headmen of each gang may be held responsible if any drains are in bad condition. (8) To reconsider the whole question of the drainage of Howrah, storm-water of the lands near the river bank only being discharged into the river, while the storm-water and sewage of the greater part to be carried to the westwards and discharged by the natural drainage channels of the country, and to prepare some scheme drawn on these lines. (9) Pending the provision of an improved system of drainage, to take an engineer's opinion as to the possibility of carrying the sewage complained of by the Health Officer of the Port across the Grand Trunk road to the westwards. (10) To make provision for gradually converting the kutchra side-drains into pucca shallow saucer-shaped ones. (11) To consider the desirability of soon maturing the scheme for supplying this important town with filtered water. (12) To require the owners of dirty ponds to fill them up with rubbish when useful and harmless stuff of the sort is available without cost at the salt golahs and other places of business. (13) To include drains among surface cleansing, and thus keep them permanently clean. (14) To provide public latrines at convenient places, particularly in the southern parts of the town, and to adopt generally the iron ones of Hornbury's pattern to be got from Messrs. Burn and Company. Also to put up a few of the latter of five or six seats, scattered here and there, throughout the bustis, specially for the use of women and children. (15) To have the latrines intended for the use of females attended to by methranis only. (16) To put up more corrugated iron urinals along the principal thoroughfares and in the crowded localities. (17) To see that the iron casks in which the washings and the urine from the latrines are removed are not leaky. Also to throw over them some deodorant or antiseptic powder while they are taken to the trenching ground. (18) To carry on the trenching system properly, the trenches being dug only one foot deep and one foot wide, and only six inches of night soil poured into them, and the remainder filled with earth. (19) To have the conservancy of all the private markets scrupulously attended to. (20) To consider the advisability of constructing a proper municipal market. (21) To have the shops for the retail sale of European medicinal drugs registered, and to see that the compounders and dispensers are qualified men holding certificates of competency. (22) To immediately close the burial-ground which is situated in the southern portion of the town, and prohibit further interments in it, and plant the ground with rapidly-growing trees. (23) To provide a graveyard as soon as possible in the place of the one to be closed. (24) To have the graves dug sufficiently deep, so that the *chupper* which is usually placed over the Mahomedan dead may be at least four feet, and not two or two and a half feet as at present, under the ground. (25) To consider the desirability of introducing the Contagious Diseases Act into the town. (26) To require the tax-collectors and the overseers to discharge satisfactorily their duty in connection with the reporting of births and deaths. (27) To fully utilise the provisions of the Compulsory Registration Act, and specially appoint a man to go round the various wards alternately and try to detect all omissions of the requirements of the law. (28) To require the receipts granted for deaths reported to be produced before cremation or burial either to the constable of the beat within which the burning or the burial-ground where the body is taken for disposal is situated, or to the persons in charge of the same grounds. (29) To induce the midwives to give information of all births at which they attend.

Krishnagore Town—*Inspected in December 1886.*—I went round the town in company with the Chairman, who seemed anxious to do what he could, and was taking much interest in and trouble concerning municipal affairs. I also communicated with some of the Municipal Commissioners during my inspection. Some improvements were seen to have been effected since last visit, the chief being the introduction of river-water into almost all the important tanks; the re-excavation of the municipal tank; the sinking of three new wells; and the strengthening of the conservancy establishment. Want of funds, however, had seriously embarrassed the Commissioners and prevented them from doing much in this direction. They had yet to contend with many serious sanitary defects, notably under the heads of drainage and water-supply, which must continue to tell heavily upon the health of the people.

The suggestions were—(1) To practise as much economy as possible, so that something might be available every year for remedying the serious defects that still exist under the various branches of sanitation, and carrying out permanent sanitary improvements. (2) To consider the desirability of asking Government to appoint a third-grade Assistant Surgeon to have charge of the charitable dispensary in the place of the present second-grade man, and thus effecting a considerable saving in the pay of that officer. (2) To ask some of the liberal-minded zemindars of the place to advance to the Municipality at a small rate of interest the amount required for meeting some of the pressing wants of the town. (4) To fully utilise the sections of Part VI of the Municipal Act which refer to building regulations. (5) Not to allow rubbish, &c., to be cast into the pucca roadside drains; and further, to have these drains regularly swept with brushes made for the purpose. (6) To insist upon house-holders keeping their holdings free from jungle. Also to have the bamboo clumps, which are found in all parts of the town and which greatly impede ventilation, thinned at places. (7) To press the zemindars to more activity, and cause them to fill up filthy pits

and hollows. (8) To have the pits in Goari as far as possible connected with one another by a channel admitting river water near the ghât, which would pass through and re-enter the river down near the civil station. (9) To induce the rich owners of the pits to convert some of them into serviceable tanks for drinking purposes, utilising the earth which would then become available for filling in smaller holes around. Also to see if at least one of the holes cannot be treated in this manner by the Municipality every year. (10) To take the opinion of a qualified engineer on the subject of improving the drainage of the southern and eastern portions of the town by opening out an old moat and making a connection with the Anjona, and if he decides in favor of the project, then to carry it out. (11) To have the town properly surveyed and levels ascertained according to which drains can be made, and to undertake a complete scheme of drainage, and either accomplish it gradually, parts being done every year, or raise a loan for quickly carrying out this important work. (12) To provide pucca shallow saucer-shaped drains in the crowded localities and along the principal thoroughfares. (13) In future, instead of constructing reservoirs in connection with the public wells for collecting the spill water, to construct a pucca shallow drain communicating with another around the rim of the masonry platform, to carry off the spill water to the nearest drain or to a safe distance from the well. (14) To adequately strengthen the conservancy establishment and increase the number of carts and draught cattle. Also to strictly supervise the establishment, the work of each man being apportioned to him, and that work taken in full. (15) To have the lanes and by-paths swept at least twice a week, if possible, and the sweepings removed from them. (16) To include drains among surface cleansing and thus keep them permanently clean. (17) To require all the inhabitants to bring out at a fixed hour all house-rubbish and deposit it on the road-side for removal by the conservancy carts. Also to have the existing accumulations of rubbish and other offensive matter around and at the backs of houses removed at the cost of the offenders. (18) To cause all cess-pools in which house refuse is collected in the thinly inhabited quarters of the town to be filled up as soon as possible. (19) Not to allow cow and cattle ordure to be stored up within the compounds of houses, but to have it either converted into cakes for fuel or deposited in the fields till required as manure. (20) To construct more public latrines at convenient places, and instead of the ordinary structures to adopt Hornbury's patent iron latrines. (21) To actively carry out the suppression of the well-privies and require their owners to provide for themselves properly-constructed surface privies with receptacles which could be got at and cleaned easily. (22) With the gradual increase in public latrine accommodation, to adopt stringent measures to put down promiscuous defæcation. Also to require the police, under section 365 of the Municipal Act, to perform this part of their duty more satisfactorily than heretofore. (23) To extend to the whole town Part IX of the Municipal Act, which is now in force in only two of the wards. (24) To encourage by all means the cultivation of the trenching grounds. (25) To remedy the defects pointed out in the Goary market, and provide a proper cleanly place with pucca floors and drains. (26) To call upon the Nuddea estate to entirely remodel the market belonging to it in the old town, and to erect a corrugated iron one with paved floors and drains, and to provide a urinal in the vicinity. (27) To close the burial-ground at Radhanagore, and prohibit further interments in it, and to have this ground, as well as the one that has already been abandoned, planted with rapidly-growing trees. (28) To establish at the outskirt of the town a new ground in place of the one to be closed. (29) To see that the graves in the public cemeteries are dug in regular rows with fixed intervals between each grave and each row of graves, and to require the man in charge of the municipal grounds to look to this. (30) To insist upon complete cremation in every case belonging to the town, and to make a representation to the Magistrate with the view of effectually putting a stop to the reprehensible practice of throwing uncremated or partially cremated bodies in the river. (31) To have the Hindu pauper dead burned at the cost of the Municipality. (32) To have the clothes, pillows, &c., of the deceased destroyed by fire along with the body. (33) To fully utilise the provisions of the Compulsory Vaccination Act, particularly the penal ones. (34) If possible, to specially appoint a man to detect and report for punishment all evasions by the people of the requirements of the Compulsory Registration Act. (35) To fully avail of the penal clauses of the above-named law. (36) To introduce the hath-chitti system which has been adopted in several other municipalities. (37) To induce the midwives to give information of all births at which they attend.

Serampore Town—*Inspected in December 1886.*—Accompanied by Dr. Barker and the overseer, I inspected this town from one end at Seoraphuli to Konnaghur at the other, a distance of several miles. The Vice-Chairman had notice of my coming, but did not appear. The general condition of the place was much as formerly, and no drainage or other works had been constructed since my last visit for its improvement. Indeed, there appeared, except the metalling of roads, to have been no original sanitary works in progress or under consideration. The drainage was still in the defective condition in which it had always been, and the amount of jungle was still very great, and in places the undergrowth of low jungle was very dense, completely excluding all air and light. The old tankâ, pits, and holes overhung by trees, bamboos, and jungle were exactly as when last seen, and their condition had by no means improved. The water-supply was unchanged, and still in the same defective state as before. The arrangements under the head of disposal of the dead, as far as interments were concerned, were very unsatisfactory, and in several respects objectionable, while those relating to markets were as bad as possible. In short, most of the elements that predispose to disease abounded in this Municipality to the detriment of public health.

The suggestions were—(1) To annually devote a much larger proportion than only 5·62 per cent. of the income towards rectifying the grave sanitary defects that still exist and placing all parts of the town on a proper sanitary footing. (2) To require the house-holders to keep their holdings free from noxious vegetation, &c., and to have the bamboo clumps, which greatly impede ventilation, thinned at places. (3) To observe some method in employing street-sweepings, &c., for filling up pits and excavations; to have those intended to be got rid of first dewatered in order that the operation may be carried on as inoffensively as possible, and to take up only so many of them at a time as can be dealt with within a short period. (4) To consider the advisability of acquiring some of the larger excavations and converting them into good drinking tanks, utilising the earth which would then become available in filling in the smaller holes around. (5) To have the chain of filthy pits along the west of the railway line between the Seoraphuli and Serampore stations connected, as far as practicable, with one another, and with the tidal khall which runs through the town. (6) To consider the expediency of annually setting apart a small portion of the municipal revenue for filling in some of the filthy hollows and ditches with earth. (7) Not to permit any interference with the drainage channels already in existence, or the creation of others to the detriment of the general drainage of the locality. (8) To construct gradually pucca shallow saucer-shaped drains along the principal streets and in the crowded localities, making, however, considerable progress every year. (9) Wherever pucca drains are provided, to see that all house drains have pucca connections with them. (10) To favourably reconsider the question of joining in the preparation of the scheme for the supply of filtered water to the riparian towns on the west bank of the Hughli, and to soon take the project in hand. (11) To considerably increase the conservancy establishment and have it strictly supervised. (12) To have the lanes and by-paths swept at least twice a week and the sweepings properly removed. (13) To provide a certain number of wheel-barrows for the proper conservancy of the narrow lanes. (14) To include the drains within surface cleansing, and thus keep them permanently clean. (15) To provide barrel-carts for the removal of fluid house-refuse from the crowded localities to the trenching ground for disposal, until such time as it can be discharged into pucca shallow public drains. (16) To construct more public latrines at convenient places, and reserve some of them for the exclusive use of females. Also in place of the miserable mat structures to adopt the use of Hornbury's patent corrugated iron latrines sold by Messrs. Burn and Company of Calcutta. (17) To prevent all drainage of urine and washings from the latrines on the river bank, and have these collected in pucca reservoirs and removed in barrel-carts to the trenching grounds for disposal. (18) With the gradual increase in public latrine accommodation, to make persevering endeavours to put down promiscuous defecation. (19) To early extend Part IX of the Municipal Act to the Mahesh, Rishra, and Konnaghar wards, where the condition of the private privies is far from being satisfactory. (20) To procure plots of land convenient to the night-soil depôts for the purpose of trenching, and have them changed as often as possible, being given back to the cultivators after being manured. (21) To keep the municipal market scrupulously clean and in good repair. (22) To have the new market under construction in the Chattra ward carefully laid out, so that houses shall stand in rows with broad spaces between for the placing of grain and merchandise. Also to see that all divisions of the market give access to conservancy carts. (23) To supply latrines and urinals at the owner's expense, the former of corrugated iron of Hornbury's or other similar pattern. (24) To properly attend to the conservancy of all the markets, and to call upon the owners to contribute for this. (25) To at once put a stop to intramural burial, and generally refuse permission to bury within house enclosures. (26) To prohibit interments in such of the other private graveyards as are near the dwellings of the people, and to establish in their stead one or two municipal grounds at the outskirts of the town. (27) To see that burials in the grounds to be provided are in lines with fixed spaces between each grave and each row of graves, and to have the graves dug sufficiently deep so that the *chupper* which is usually placed over a Mahomedan corpse may be at least four feet under ground. (28) To fully utilise the Compulsory Vaccination Act, specially its penal provisions. (29) To require the tax-collectors and the overseers to report births and deaths as a check on voluntary registration, and to prevail upon the midwives to give information of all births which they attend.

Midnapore Town—Inspected in December 1886.—The Civil Surgeon and the municipal overseer were present with me during some of the inspections. It appeared that the general cleanliness of the town had improved since last visit; that rubbish was being more perfectly removed, and that the latrines were more numerous. The drains were generally cleaner and the central khall of the town was in action, the water running freely in its upper part, and also, though more slowly, near the outlet. Much, however, yet remained to be done to place the town on a satisfactory sanitary footing. The drainage and the conservancy arrangements, though considerably improved, were still very defective, and the water-supply question demanded the most careful consideration of the Commissioners, the present supply being insufficient and generally of an inferior quality. Filthy pits and hollows were very numerous and had to be gradually dealt with.

The suggestions were—(1) To require the methers to clean at least 25 or 30 privies or more, as in other municipalities, and to carefully inquire into the work actually performed by them, and try to effect as much saving as possible in the cost of maintaining the establishment. (2) To annually devote a larger proportion than only 1·37 per cent. of the income to rectify the existing defects and carry out permanent sanitary improvements. (3) To consider the expediency of slightly raising the taxes. (4) To see that the pucca side-

drains, particularly those in Burra Bazar, are kept quite free from silt and rubbish. (8) To consider the advantages of using half Ranigunge drain pipes for roadside drains before shops and in other crowded streets, also as junctions between house and street drains. (6) To persevere with the filling up of all filthy pits and excavations, and to fully utilise street-sweepings for the purpose when the pits are at a distance from the homesteads. (7) To consider the advisability of annually setting apart a small portion of the income for filling in two or three of the hollows that are situated very near the dwellings of the people with mud and sand from the river bed during the dry season. (8) To undertake a complete scheme of drainage, and gradually carry it out under professional supervision, parts being taken up every year. Also to have the drains, as far as practicable, diverted from emptying into tanks. (9) To provide pucca, shallow saucer-shaped drains in the crowded localities and along the principal streets. (10) Wherever pucca drains are provided, to see that all house drains have pucca connections with them. (11) To set apart certain tanks for drinking purposes, and properly protect them from all sorts of pollution not temporarily, but all the year round. (12) To induce the rich owners of some of the tanks to have them redug, thoroughly protected and reserved for drinking purposes. (13) To fill up such of the tanks as are useless or cannot be maintained in proper order. (14) To construct a pucca shallow drain around the rim of the well platform, and connect it with another pucca drain, so that the spill water may be carried to the nearest public drain or to a safe distance from the well. (15) To provide all the municipal wells with buckets and chains, and prohibit the promiscuous dipping of vessels into them. (16) To sink one or two pucca wells every year at convenient places. (17) To do the best to promote and carry out the scheme for the water-supply of the town prepared by Mr. P. B. Roberts, Divisional Superintendent of Road Cess, and not to lose the grand opportunity of turning the Jubilee of Her Majesty into account by obtaining the consent of the whole community to divert, towards providing a filtered water-supply for the town, the money which is intended to be spent on founding some memorial of a permanent nature, either in the shape of a public hall, park or scholarship, to commemorate the Jubilee year. (18) To give early effect to the suggestions offered under the head of conservancy in the last Inspection Report. (19) To strictly supervise the conservancy establishment. (20) Not to allow cow-dung, &c., to fester within the compounds of houses, but to have it either converted into cakes for fuel, or daily deposited on the roadside for removal by the conservancy carts, or removed to the fields as manure. (21) To remove the pig-keepers to the outskirts of the town or beyond, if possible, if this can legally be done. (22) To provide more public latrines for females, and in place of the ordinary structures, to put up on pucca floors Hornbury's patent iron latrines sold by Messrs. Burn and Company of Calcutta. (23) To see that each of the kutcheries is provided with a public latrine of the type mentioned above. (24) To provide all the public latrines with proper drainage arrangements for spill-washings and urine and a removable collecting vessel. (25) To particularly enquire whether all night-soil is removed to the trenching grounds or not, and make sure that the establishment paid for is really employed. (26) Not to bury night-soil in pits measuring 10 feet x 5 feet x 5 feet, but carry on the trenching system in the manner recommended in the last report. (27) To consider the desirability of providing a public market. (28) To have the shops for the retail sale of European medicinal drugs registered, and to see that the compounders or dispensers are qualified men holding certificates of competency. (29) To erect the new slaughter-house pucca throughout, and provide it with proper drains, water-supply, and other conveniences. (30) To allow none but healthy animals to be killed for food consumption, and prohibit the killing of cattle at any other place. (31) To have the burial-grounds marked out in regular lines so as to economise space, and to keep them quite free from jungle. (32) To ask the Mahomedan community to keep the Mirzagunge burial-ground free from jungle, and plant a few flowering trees on it. (33) To take steps to remove the Tantigurriah burial-ground to the reverse or southern slope towards the river. (34) To have the cooly lines properly laid out with the huts standing in regular lines, and having free and sufficient passage in front of or between each line. (35) To improve the drainage and conservancy arrangements of these places, and see that they have sufficient latrine accommodation and a good supply of wholesome water. (36) To fully utilise the provisions of the Compulsory Vaccination Act. (37) To make full use of the penal clauses of the Compulsory Registration Act. (38) To require the registrar specially appointed for the purpose to go round the various wards alternately, and try to detect all evasions by the people of the requirements of the above-named law. (39) To require the tax-collectors, &c., to discharge their duty in connection with the reporting of all births and deaths more satisfactorily. (40) To adopt the hath-chitti system which is in force in other municipalities. (41) To induce the midwives to give information of all births at which they attend.

*Action taken on the suggestions :—*It was resolved—(1) To reduce the number of methers from 166 to 149, and require each of them to clean between 20 and 25 privies. (2) To have the drains in Burra Bazar laid with half Ranigunge pipes. (3) To fill up with mud and sand the *baoli* near the Aligunge outpost. (4) To allot Rs. 1,000 as provided in the budget for a complete scheme of drainage for the town. (5) To construct pucca shallow drains around the rim of the platforms round the public wells, and connect them with the nearest drains. (6) To reserve the Library tank for drinking. (7) To complete the well already commenced to be dug at Habibpore. (8) To direct the overseer and the assistant overseer to inspect the trenching grounds at least twice every week, and report as to whether or not

all the night-soil of the town is taken by the methers to these places. (9) To request the Ward Commissioners to supervise the conservancy establishment. (10) To issue notices to owners of cattle, strictly prohibiting them to deposit cow-dung, &c., within the compounds of their houses. (11) To strictly enforce the provisions of section 265 of the Municipal Act, and fix Koojkota for keeping of pigs. (12) To introduce Hornbury's patent iron latrines within the Municipality. (13) To adopt shallow trenching in so far as the extent of the trenching ground would allow. (14) To have the shops for the sale of European drugs registered under section 252, and to ask the Magistrate to move the Local Government to issue a notification in the *Calcutta Gazette* for the extension to this Municipality of the second clause of the said section. (15) To send a copy of the suggestions regarding the Mirza Bazar burial-ground to the Secretary, Mahomedan Association, with the request to carry out the suggestions. (16) To require the owners of cooly depôts to take out licenses under section 261 of the Municipal Act. (17) To remove the Tantigurriah burial-ground to the southern slope towards the river. (18) To require the midwives to give information of the births which they attend, and the wood-contractor at the burning ghâts to keep a register of all dead bodies brought for cremation.

R. LIDDERDALE, M.D.,

*Deputy Surgeon-General,
Sanitary Commissioner for Bengal.*

The 10th May 1887.

APPENDIX No. VI.

STATEMENT SHOWING THE SANITARY CONDITION OF THE
VILLAGES IN EACH REGISTERING CIRCLE IN BENGAL,
AND THE MORTALITY FROM SMALL-POX, FEVER,
CHOLERA AND BOWEL-COMPLAINTS,
DURING THE YEAR 1883.

Statement showing the Sanitary condition of the villages in each Registering Circle in Bengal and the Ratios of Deaths from Small-pox, Fever, Cholera and Dysentery, during the year 1886.

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Burdwan	Burdwan—Town	1675	1675	1675	1675	Drainage is defective. The flow of water and sub-soil drainage have been interfered with. The drains originally designed to discharge into the river now drain into tanks and bollows, which have no outlets. The main drains are deep and defective in levels. The smaller drains do not admit of being flushed out, and consequently smell unpleasantly in the dry weather. The house drains are not connected with the road-side drains.	The town possesses an admirable system of water-works, but it is confined to its northern division and has not yet been to the south-ern, where the water-supply is taken from very filthy tanks, and the highly polluted Eden canal and banks of the river. Even in the southern division the supply is inadequate, and house connections with the water-works are insufficient. The tanks in this division are now used for bathing, but they are very filthy. There are also in the town one protected public well and numerous private ones in a more or less bad condition, which are used for all purposes.	The conservancy arrangements are on the whole satisfactory. Surface cleansing is well attended to, but the bye-lanes are not swept often enough. There is an excellent set of public latrines—10 in number—but the scheme has not been extended to the whole town. There are no public urinals. The private latrines in the localities where the public ones are, are under very satisfactory municipal management. The system also calls for extension. Promiscuous defecation is still permitted. There are no well-privies. The night-soil is properly trenched, and portions of the trenching ground are cultivated with good results. Fluid kitchen refuse is not satisfactorily removed. There are many tanks or water holes and pits about the town which form filthy cess-pools. The supervising establishment requires to be strengthened and better officered. The arrangements connected with the disposal of the dead, and markets and slaughter-houses are open to improvement.
Burdwan	Burdwan—Rural	27330	1712	162	162	See pages 101 to 104 and 124 to 126 of this Report	Is taken principally from tanks which are used promiscuously and defiled more or less in other ways; but the tanks which are situated outside the villages generally contain potable water. Where there are rivers their water is used, but low ebbes throw their dead into them. See also pages 124 to 126 of this Report.	The pathways between the houses abound in superfluous vegetation and filth. The drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle the growth of which is encouraged in order to hide the latrines more effectually from public view. See also pages 124 to 126 of this Report.
Burdwan	Culina—Town	1798	1798	293	293	The drainage is defective. Only the northern part of the town has been supplied with surface drains. See also page 126 of this Report.	Is taken principally from the river and from a large municipal tank. Some tanks are, however, to be excavated. See also page 126 of this Report.	Surface cleansing is attended to. There are no public latrines. No night-soil and fluid refuse from the private privies are buried in waste land away from habitations. Interment within compounds of houses is occasionally allowed. See also page 126 of this Report.
Burdwan	Culina—Rural	1750	1750	41	41	No report is at present available. See the general account on pages 101 to 104 and 124 to 126.	Is taken from tanks which are used promiscuously and are otherwise more or less polluted. Those of the tanks which are situated outside of the villages contain potable water generally. Where there are rivers their water is used. On the whole the water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. Some houses are surrounded by jungle which is resorted to for defecation. Conservancy nil. See also pages 101 to 104 and 124 to 126.

* For the general Sanitary condition of the Villages in this District, see pages 101 to 104 of this Report.

District.		Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
				Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Burdwan ...	...	Assensole or Nyamat-pore—Baral.	98,842	'01	13-97	'09	'30	The villages are situated on elevated ground and are dry. See also pages 101 to 104 and 124 to 126 of this Report.	Water is taken from tanks, and depressions in which rain water collects. Many of the tanks are large and good. See also pages 101 to 104 and 124 to 126 of this Report.	Conservancy nil. Fields and waste lands are resorted to for defecation. Refuse and cow-dung are collected in pits and excavations till required for manure. See also pages 101 to 104 and 124 to 126 of this Report.
Kurdwan ...	...	Sahibganje—Baral ...	75,171	'01	12-07	'41	'41	No particulars are yet available. See the general account on pages 101 to 104 and 124 to 126.		
Burdwan ...	...	Raniganje—Toers ...	10,887	.....	12-34	1-15	5-02	The natural drainage is good, the town being situated on a sloped laterite soil. But the drains are ill constructed and badly levelled, and as a rule empty into tanks.	Is taken from tanks and wells, but is not adequate. The single municipal tank and five other unprotected private ones have been reserved for drinking purposes. Four of the wells have also been protected. On the whole the water-supply is impure.	The conservancy arrangements are not well carried out. The sweepings, &c., are removed by contract but very incompletely. Heaps of rubbish are to be found behind many houses, on the banks of tanks, &c. The cattle-sheds are filthy, and the dung, &c., are collected in the premises and only removed on compulsion.
Burdwan ...	...	Raniganje—Baral ...	135,646	...	12-48	'10	'23	Drainage is defective. See also pages 101 to 104 and 124 to 126 of this Report.	Is taken from the river Damuda and from tanks. The former, most of the latter afford a good supply. See also pages 101 to 104 and 124 to 126 of this Report.	The houses are generally neat, clean and dry, but in many villages are ill-ventilated and crowded. No conservancy. Defecation is carried on in jungles and waste lands, and refuse and cow-dung are collected on footpaths. See also pages 101 to 104 and 124 to 126 of this Report.
Burdwan ...	...	Khandoghose—Baral	54,981	.....	14-05	1-32	'34	No particulars are available at present. See the general account on pages 101 to 104 and 124 to 126.		
Burdwan ...	...	Royra—Baral	97,190	.....	14-40	'19	'55	No particulars are at present available. See the general account on pages 101 to 104 and 124 to 126.	Is taken from tanks which are used promiscuously and are otherwise more or less polluted. Those of the tanks which are situated outside of the villages contain potable water generally. Where there are rivers their water is used. On the whole the water-supply is insufficient.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. Some houses are surrounded with jungle which is resorted to for defecation. Conservancy nil. See also pages 101 to 104 and 124 to 126.
Burdwan ...	...	Gangoor or Satgachin—Baral.	102,748	.....	15-75	'68	'69	Drainage is defective. See also pages 101 to 104 and 124 to 126 of this Report.	Is taken from tanks, ponds and excavations. Some of the first are large and very good; the ponds are generally choked up, but their water is used only for culinary purposes. In general tanks situated outside of villages contain good water, but being at a distance are not resorted to. The tanks in the villages are highly polluted, a great source of pollution being the practice of women entering the water to bathe immediately after anointing themselves with oil and turmeric. See also pages 101 to 104 and 124 to 126 of this Report.	In some villages the houses are crowded together, ill-ventilated and surrounded by trees or bamboo clumps. No conservancy. Defecation is carried in jungles and waste lands, and in some places on roads and footpaths, banks of tanks, pigs serving as scavengers, but contributing to the nuisance themselves. Cremation and interment are carried on in some places near tanks. Heaps of refuse and manure are to be met with. Cattle are kept inside dwelling houses. See also pages 101 to 104 and 124 to 126 of this Report.
Burdwan ...	...	Sellimabad—Baral ...	71,708	.....	18-31	'85	'54	Drainage is defective. See also pages 101 to 104 and 124 to 126.	Is taken from tanks, some of which are large and good. The rest the same as in Culna.	No conservancy. Defecation takes place in jungles and waste lands. Many villages are full of jungle and trees. The rest the same as in Culna.

Burdwan ..	Asgram—Baral ..	97,311	.....	19'37	'40	'23	No particulars are yet available. See the general account on pages 101 to 104 and 124 and 126.	2
Burdwan ..	Ketingram—Baral ..	73,723	.....	14'03	2'31	'13	See pages 101 to 104 and 124 to 126 of this Report.	3
Burdwan ..	Mongulkote—Baral...	78,643	.....	15'38	1'08	'16	See pages 101 to 104 and 124 to 126 of this Report.	4
Burdwan ..	Kulwa—Baral ..	82,943	...	15'32	2'07	'38	See pages 101 to 104 and 124 to 126 of this Report.	5
Burdwan ..	Kakra—Baral ..	38,969	.....	18'74	1'32	'28	No particulars are available at present. See general account on pages 101 to 104 and 124 to 126.	6
Burdwan ..	Montesur—Baral ..	63,053	.....	13'56	2'14	'71	Some of the villages are situated on elevated ground. See also pages 101 to 104 and 124 to 126 of this Report.	7
Burdwan ..	Hood-Brood—Baral ..	79,673	.....	15'32	'45	'12	No particulars are at present available. See the general account on pages 101 to 104 and 124 to 126.	8
Burdwan ..	Parbathali or Bhutoria—Baral.	82,070	'01	19'42	1'04	'30	No particulars are yet available. See general account on pages 101 to 104 and 124 to 126.	9
* Bankura ..	Bankura—Town ..	18,747	.....	9'86	'35	1'51	The natural drainage is excellent. The fall is towards the north and south into the rivers. The public drains discharge into the fields and the house drains are generally connected with them. Ensurachments on, and obstructions to drains are not allowed.	10

* For the general Sanitary condition of the Villages in this District, see pages 101 to 104 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEAD OF—									
District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—					Drainage.	Water-supply.	Domestic cleansing.
		Population.	Stomach-pox.	Fever.	Cholera.	Bowel-complaints.			
Bankura	Bankura—Rural	103,904	106	12'05	1'10	25	The land is low and marshy. See also page 130 of this Report.	See page 130 of this Report	The sanitary condition of the villages is bad: accumulations of filth are to be met with. The habits of the people are filthy. See also page 130 of this Report.
Bankura	Bishenput—Town	21,253	..	9'63	3'81	1'26	The natural drainage is good, as the town is situated on elevated ground. The rain water is discharged through drains into the fields. House drains and encroachments, on the other hand, are numerous, and obstructions to public drains are common after. See also page 131 of this Report.	Is taken from tanks which are numerous and contain good water, but none of them have been set apart exclusively for drinking or bathing purposes. See also page 131 of this Report.	Surface cleansing is fairly attended to, but the refuse from some houses is not removed. There are no public latrines. The private privies, few in number, are under the management of the Municipality. There are no well-privies. The night-soil is removed and deposited in places fixed for the purpose. In some cases burials take place in the compounds of houses. See also page 131 of this Report.
Bankura	Bishenput—Rural	119,245	.....	14'34	5'63	31	The drainage is imperfect. The country is low, marshy, and marshy. See also page 130 of this Report.	Is taken from tanks of which a few only can be said to contain good water. Generally they receive surface drainage, are full of weeds and vegetation, choked up, and used for all purposes. There are, however, some good large tanks to be met with, particularly in village Kanchakol, where there are also some wells the water of which is said to be good, although they are not protected, and separate tanks for ditches. See also page 130 of this Report.	The habits of the people are filthy. In some villages the basements of the houses are somewhat raised; in general they are ill-ventilated, their beds and surroundings are filthy; h-pops of cow-dung and refuse, &c., are kept on the roadsides, near tanks and in pits close to houses, nooks and corners; and jungle abounds. See also page 130 of this Report.
Bankura	Sonamukhi—Town	12,618	..	9'35	..	75	See page 131 of this Report	See page 131 of this Report	See page 131 of this Report.
Bankura	Sonamukhi—Rural	67,400	.....	11'23	10'1	19	Drainage is defective. See also page 130 of this Report.	Is taken from tanks, rivers, and other water-courses. The tanks receive refuse cow-dung, &c., and defecation is carried on on their banks. The like impurities enter into the water-courses, and they are, in addition, the receptacles of carcases. See also page 130 of this Report.	See page 130 of this Report.
Bankura	Gangajalghatti—Rural	172,607	11	13'62	4'3	38	Drainage is defective and obstructed. The ground is low and marshy. See also page 130 of this Report.	Is taken from tanks and water-courses. The tanks receive refuse cow-dung, &c., and their banks are fouled. The water-courses are similarly polluted and carcases are thrown into them, and, when dry, their beds are used for defecation. See also page 130 of this Report.	The sanitary condition of the villages is bad. See also page 130 of this Report.
Bankura	Onda—Rural	119,321	.....	11'24	6'5	61	The ground is low-lying and marshy. See also page 130 of this Report.	In some places the tanks dry up in hot weather, when the khals are resorted to at great inconvenience. See also page 130 of this Report.	The houses are ill-ventilated. The habits of the people are filthy. Conservancy nil. Filth is accumulated. See also page 130 of this Report.
Bankura	Kotalpore—Town	Data not available.					See page 131 of this Report	See page 131 of this Report	See page 131 of this Report.

Bankura	...	Kotalpore-Beral	...	94,964	.....	15-87	'51	'14	There are no drains, but the natural drainage is good. See also page 130 of this Report.	Is taken chiefly from tanks which are numerous in this town, and in general contain good and sufficient water; but cremation is carried on on the banks of some of them. In some places, however, the tanks are very bad - overgrown with weeds, &c., and dry up in the hot weather when water is scarce. In some villages khal water is used. See also page 130 of this Report.	In some places, particularly in village Moinsapore, the houses are kept clean, but in general they are filthy, specially their surroundings, and here and there crowded together. Conservancy nil; people defecate in jungles pits full of cow-dung, refuse, &c., are numerous on roads, backs of houses, &c. In some places the cow-dung, &c., are thrown out through a hole in the cow-shed to collect outside. See also page 130 of this Report.
Bankura	...	Indas-Beral	...	78,809	.....	12-71	'25	'15	Drainage is fairly effective, but the ground is low-lying and marshy. See also pages 101 to 104 of this Report.	Is taken from tanks and is generally sufficient and good. See also pages 101 to 104 of this Report.	The habits of the people are generally clean, and the houses are well ventilated and their surroundings kept free of filth to a great extent. But instances of filthiness are not rare, an instance being Ullapara when a collection of refuse almost touching the thatched roof of a house was seen. The dead are buried close to tanks and dwelling-houses. Jungle abounds. See also pages 101 to 104 of this Report.
Bankura	...	Sopul or Khatra-Beral	...	99,122	'02	11-70	'24	'09	The villages are situated on elevated ground, and the natural drainage is consequently good. See also general account pages 101 to 104 of this Report.	Rivers supply water to several villages. See also pages 101 to 104 of this Report.	See pages 101 to 104 of this Report.
Bankura	...	Raipur-Beral	...	98,802	'02	11-04	'18	'42	Ditto	Ditto	See pages 101 to 104 and 123 and 130 of this Report.
Bankura	...	Simlaspal-Beral	...	32,633	.....	13-61	'73	'73	The villages are situated on elevated ground. See also pages 101 to 104 of this Report.	Ditto	See pages 101 to 104 of this Report.
Birbhum	...	Suri-Town	...	7,943	.....	11-31	'50	1-01	The natural drainage is good, but owing to interference with it by excavations made for earth for building purposes, pools of water collect in the excavations during and after the rains. The drains are pucca and kutcha. The former are deep and narrow, built over in several places, communicate with the tanks, and are encroached upon considerably. The condition of some of the house drains is very bad. Many houses have no drains, and the fluid refuse finds its ways into cess-pools or hollows.	Is taken from wells and tanks. Of the former there is one in almost every house, and three public ones which supply good potable water. Of the latter one belongs to the Municipality which is reserved for drinking purposes and has a filter connected with it. Most of the private tanks, of which there are many, are choked up with vegetation, and into some, house refuse and washings find their way. On the whole the water-supply of this town is extremely bad in quality and insufficient in quantity.	Surface cleansing is attended to, and the sweepings, &c., removed out of town. There are only three public latrines which, however, are not much frequented, the people preferring the fields and other convenient places. The private privies are numerous. They are cleaned by public melters, but the night-soil from them is thrown on a spot outside the Municipality, while that from the public latrines is trenched. There are no well-privies, but middens and cess-pits containing filth and cattle ordure are numerous. The fluid refuse from houses is allowed to run into the public drains. Interment and cremation, which are conducted outside the town and the disposal of the contagious disease dead, are not cared for.
Birbhum	...	Suri-Beral	...	118,891	.....	16-97	'33	'15	See pages 101 to 104 and 123 and 124 of this Report. The Majumdar village is well drained.	Is taken from tanks which are generally bad, shallow and silted up, and their banks are fouled. See also pages 101 to 104 and 123 and 124 of this Report.	The people are very dirty in their habits, particularly the Sadgopa. Cattle excreta, refuse and sweepings lie everywhere. Some of the villages are covered with rank vegetation and the ditches are filthy, excepting in Basjumar. See also pages 101 to 104 and 123 and 124 of this Report.

* For a general account of the Sanitary condition of the Villages in this district, see pages 101 to 104 and 123 and 124 of this Report.

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—			
		Small-pox.	Fever.	Cholera.	Howl-corn-plague.	Drainage.	Water-supply.	Domestic cleansing.	
Birbhum ..	Dubrajpur—Rural ..	126,566	12'50	'07	'13	Drainage is bad; in some places water-logging occurs during the rains. See also pages 101 to 104 and 123 and 124 of this Report.	Water is taken from tanks many of which have silted up. In places it is naturally good, but allowed to run off. In a few places it is good and clean. See also pages 101 to 104 and 123 and 124 of this Report.	Domestic cleanliness is not observed, particularly in villages inhabited by Sadgropes and Mahomedans. The sanitary condition of one of the villages—Hemampore—belonging to a Rajah, is better than the average standard. Here the tanks are clean and contain good, wholesome water and do not dry up; there are two roads; and household cleanliness is observed. See also pages 101 to 104 and 123 and 124 of this Report.	
Birbhum ..	Rampore Hat—Rural	87,774	13'50	'39	'15	See pages 101 to 104 and 123 and 124 of this Report.	See pages 101 to 104 and 123 and 124 of this Report.	See pages 101 to 104 and 123 and 124 of this Report.	
Birbhum ..	Bolpore—Rural ..	107,893	16'21	'95	'18	See pages 101 to 104 and 123 and 124 of this Report.	Water is chiefly taken from tanks. It is charged with lime. Natural water-courses called Kundus, which exist in this thana, are also resorted to. See also pages 101 to 104 and 123 and 124 of this Report.	There is no conservancy; people defecate in fields and gardens. See also pages 101 to 104 and 123 and 124 of this Report.	
Birbhum ..	Sakulpore—Rural ..	122,723	16'92	'15	'15	Drainage is bad in places causing rain water to stagnate. See also pages 101 to 104 and 123 and 124 of this Report.	Is taken from tanks and ponds, the latter are highly polluted and the former contain decayed vegetation and are fouled by defecation. In the dry season water is scarce. The water of these tanks, into the formation of the beds of which lime-stone enters, is said to be cloudy or to have a whitish tint, but it is wholesome. See also pages 101 to 104 and 123 and 124 of this Report.	The houses are not properly ventilated. There is no conservancy. People defecate in fields and gardens. Cow-dung is accumulated in pits for manure. Some of the villages are honey-combed with excavations and hollows containing stagnant water. Sweepings, refuse and cattle litter are accumulated before dwellings. In some villages the house floors are leaped with a mixture of red earth and water which keeps them "neat and free from infection." In some places dead cattle are thrown in the ditches. See also pages 101 to 104 and 123 and 124 of this Report.	
Birbhum ..	Mourswar—Rural ..	88,836	13'41	'83	'07	No particulars are yet available; but see general account on pages 101 to 104 and 123 and 124 of this Report.			
Birbhum ..	Nalhati—including Pulas—Rural.	133,897	13'60	'45	'04	Some of the villages are situated on high, and some on low ground. See also pages 101 to 104 and 123 and 124 of this Report.	Is taken from tanks, some of which are good, some bad, and some choked with weeds, &c., and from ponds and muddis which are generally filthy. When the tanks dry up great water difficulty is experienced. See also pages 101 to 104 and 123 and 124 of this Report.	Some of the houses are crowded together. There is no conservancy. Manure and rubbish heaps are to be met with. See also pages 101 to 104 and 123 and 124 of this Report.	

Midnapur*	...	Midnapur—Towns	...	35,560	08	685	151	3'66	The drainage, although not very bad, is still defective. The pucca drains are generally obstructed, and the kutchas ones are defective in level. The cleansing of the drains is, moreover, not properly attended to.	Is taken from the river Cossie, tanks and wells. None of the tanks have been reserved for drinking purposes, but on the whole, the water is not good. The wells are for the most part protected, although not sufficiently, and yield fairly potable water. A good and sufficient water-supply is the chief want in this town.	The conservancy arrangements are yet defective. Surface cleansing is attended to, and the sweepings, filth and night-soil disposed of in the usual manner. There are public and private latrines and urinals, and more of the former are to be provided. The private privies are cleaned by the municipal mehters, but promiscuous defecation is carried on to a large extent, the night-soil is not completely removed and properly trenchered; there are numerous foul pits, tanks and water holes; and cattle dung is stored for manure within house premises. The arrangements for the disposal of the dead are not quite satisfactory.
Midnapur	...	Midnapur—Rural	...	123,546	....	17'96	08	1'75	Where the sites of the villages are high the natural drainage is good. Roadside drains are to be rarely met with as most of the roads consist of foot-paths. See also pages 128 to 130 of this Report.	River water is used where obtainable. There are many ponds which are merely dirty ditches with foul water. Tank water is also used, and it is bad. See also pages 128 to 130 of this Report.	The houses are mostly ill-ventilated and their surroundings filthy. Conservancy nil. Defecation is promiscuous. House sweepings and cow-dung are accumulated near the houses for manure. Several villages abound in jungle. See also pages 128 to 130 of this Report.
Midnapur	...	Ghatol—Towns	...	12,638	....	6'40	1'97	1'74	Drainage is defective, but the drains are maintained in good order.	Those who reside near the river obtain their water from it, the others take it from tanks. None of the latter has been reserved exclusively for drinking purposes.	Surface cleansing is attended to. There are 10 public latrines which are cleaned twice a day, but there are insufficient. The night-soil from them and the private privies is removed and buried outside the town. Cess-pits exist. Burials within the compounds of houses is carried on.
Midnapur	...	Ghatol—Rural	...	71,445	....	11'97	40	43	No drainage. See also page 130 of this Report.	Is taken from tanks which are generally bad and in places insufficient. In some villages, however, there are good tanks with pucca chatts, exclusively reserved for drinking with separate tanks for other purposes. See also page 130 of this Report.	The houses are ill-ventilated. Conservancy nil. Defecation promiscuous. Cowsheds kept unclean. The pathways are kept filthy. Sweepings and refuse are generally accumulated for manure close to houses. Some of the well-to-do have private latrines. In some places cremation takes place on the banks of tanks. See also page 130 of this Report.
Midnapur	...	Chundrakona—Towns	...	12,257	....	9'70	65	3'32	The natural drainage is good. The roadside drains are kept in good order and the roads provided with water-ways. See also page 131 of this Report.	Is derived from tanks which are said to be kept clean by the owners. A large tank in the centre of the town has been recently reclaimed. See also page 131 of this Report.	Surface cleansing is imperfectly attended to. Cultivators purchase house refuse and remove it to their fields. There are no public latrines. The night-soil from the private latrines is buried in or thrown on the paddy fields. The arrangements for cremation and interment are uncontrolled and the burial-ground in the centre of the town is in bad condition. See also page 131 of this Report.
Midnapur	...	Chundrakona—Rural	...	64,535	01	14'82	1'24	1'24	Drainage is absent. See also page 130 of this Report.	Is taken generally from filthy tanks. In villages bordering on rivers drinking water is taken from them. In places where ponds exist they are filthy, but are not used for this purpose. In some places there are wells provided with parapets, but generally they are unprovided with this precaution. See also page 130 of this Report.	The houses are ill-ventilated and their surroundings filthy, but their floors are kept with cow-dung. There are scarcely any roads. Conservancy nil. Defecation is carried on in the jungles. Carcasses are thrown on waste lands. See also page 130 of this Report.
Midnapur	...	Ramjibunpore—Towns	...	10,999	....	8'80	1'19	1'46	The natural drainage is good, but there is no main drain to carry off surface drainage. The side drains are non-effective, deficient in outfall and levels obstructed, and waterlogged in places.	Is taken chiefly from tanks and ponds. They are numerous, but very few of them are protected and contain wholesome water, while most of them are overgrown with weeds and aquatic plants which impart a repulsive odour to the water.	Conservancy is very defective. There are no public latrines. Defecation is carried on in fields, and on road sides and banks of tanks. The streets are not swept and the drains are full of garbage, &c. In some of the bustis heaps of refuse and cow-dung are piled for manure.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 104 of this Report.

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Brown vom.			
Midnapur	Tumuk-Rural	90,040	'01	8'76	2'02	1'37	See pages 101 to 104 of this Report	See pages 101 to 104 of this Report	See pages 101 to 104 of this Report.
Midnapur	Muslandpore-Rural	80,569	.....	9'55	3'76	3'56	See pages 101 to 104 of this Report	Is taken from tanks which are fairly good, and from ponds. See also pages 101 to 104 of this Report.	See pages 101 to 104 of this Report.
Midnapur	Contai-Rural	130,554	.....	13'53	4'59	2'56	See page 130 of this Report	See page 130 of this Report	See page 130 of this Report.
Midnapur	Gurbetta-Rural	133,786	.....	14'70	2'22	1'23	See page 130 of this Report	See page 130 of this Report	See page 130 of this Report.
Midnapur	Narainpurh-Rural	129,199	.....	13'15	1'74	1'5	Particulars are not yet available, but see general account on page 101 to 104 of this Report.		
Midnapur	Dautun-Rural	128,447	'02	15'10	2'15	'86	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.		
Midnapur	Gopiballupore-Rural	139,938	.....	15'59	'26	'91	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.		
Midnapur	Jhatgram-Rural	59,793	.....	13'46	'68	1'15	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.		
Midnapur	Salbani-Rural	53,617	.....	15'56	'14	1'39	No drainage. See also pages 101 to 104 of this Report.	Is taken from wells, tanks and ponds. The wells are in very bad condition and unprotected from pollution. Many of the tanks are full of jungle and weeds, and are generally used for all purposes. The ponds, which are numerous, are all filthy. In some villages scarcity of water is greatly felt. See also pages 101 to 104 of this Report.	The houses are ill-ventilated and crowded together. Their fronts are generally kept clean, but house sweepings are collected behind them or in excavations. Jungle surrounds. Conservancy absent. See also pages 101 to 104 of this Report.
Midnapur	Pinpur-Rural	90,704	.....	12'78	'20	'42	No particulars are yet available, but see general account on pages 101 to 104 of this Report.		
Midnapur	Keshpur-Rural	96,009	.....	14'21	'87	'76	See page 130 of this Report	See page 130 of this Report	See page 130 of this Report.
Midnapur	Daspur-Rural	115,289	.....	12'44	1'63	1'41	See pages 101 to 104 of this Report	See pages 101 to 104 of this Report	See pages 101 to 104 of this Report.
Midnapur	Debra-Rural	70,126	.....	22'61	'49	'60	No particulars are yet available, but see general account on pages 101 to 104 of this Report.		
Midnapur	Sabong-Rural	202,714	'04	17'25	'97	'65	See page 130 of this Report	See page 130 of this Report	See page 130 of this Report.

Midnapur ...	Pantnab—Rural ...	142,081	407	1494	1228	1335	See page 130 of this Report	...	...	See page 130 of this Report.
Midnapur ...	Sutabatia—Rural ...	54,624	.....	765	175	395	See page 130 of this Report	...	...	See page 130 of this Report.
Midnapur ...	Nundigram—Rural ...	121,895	.....	1155	344	161	See page 130 of this Report	...	...	See page 130 of this Report.
Midnapur ...	Baghunathpur—Rural	62,124	401	1123	812	392	No particulars are yet available, but see pages 101 to 104 of this Report.	...	...	Some villages contain several two-storied hofees. Excavations, choked with vegetation, are common. See also pages 101 and 104 of this Report.
Midnapur ...	Egra—Rural ...	63,417	.....	1852	200	310	See page 130 of this Report	...	...	See page 130 of this Report.
Midnapur ...	Khajri—Rural ...	42,126	...	1217	301	173	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.	...	...
Midnapur ...	Patapur—Rural ...	87,324	.....	1825	175	53	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.	...	...
Midnapur ...	Bhachampur—Rural	98,451	.....	1265	271	76	Particulars are not yet available, but see general account on pages 101 to 104 of this Report.	...	...
* Hughli ...	Hughli—Towns	38,718	.....	1301	513	676	The drainage is not satisfactory. The principal outlets of the main channel are defective. The drains after running in opposite directions from the river in along winding course discharge into it. The kutchra drains have not sufficient fall.	In taken chiefly from the river and from three tanks reserved for drinking. The quality of the river water is said to be good, except during rainy season. The above mentioned tanks are protected from pollution, but the other tanks of which there are many, are in bad condition with dense foliage trees and bamboos overhanging them. In the parts of the town away from the river water difficulty is felt.	...	The conservancy arrangements are not quite satisfactory. Surface cleansing is looked after, but not sufficiently as the establishment is inadequate for the purpose. The sweepings, &c., are used in filling up pits and low lands. There are 11 public latrines, but they are insufficient. The private privies of the localities where Part IX of the Municipal Act is in force are under the management of the Municipality. There are no well-privies, but promiscuous defecation is still carried on. The night-soil is trenched, and one of the trenching grounds is cultivated. The fluid refuse from houses is properly disposed of, but cess-pits and foul hollows exist in and near houses. The arrangements connected with cremation are satisfactory, but not those relating to interment, as burials in the compounds of houses are permitted.
Hughli ...	Hughli—Rural ...	15,458	.....	2335	724	802	Particulars are not yet available, but see general account, pages 101 to 104 and 124 to 126 of this Report.	...	...
Hughli ...	Kotrung—Towns Bausbariah—Towns	Data not available Ditto	...	...	...	...	See page 127 of this Report See page 127 of this Report	...	...	See page 127 of this Report. See page 127 of this Report.
Hughli ...	Jehanabad—Towns	10,507	.....	942	47	38	The drainage is very defective. The municipal drains are cleaned, but house drains are not attended to and are in bad condition. See also page 127 of this Report.	Is taken from the river, and is reported to be good. See also page 127 of this Report.	...	The conservancy arrangements are not satisfactory. Surface cleansing is not attended to. There are only two public latrines. The condition of the private latrines is bad. Night-soil does not appear to be trenched. Defecation is promiscuous. The arrangements connected with the disposal of the dead are unsatisfactory. See also page 129 of this Report.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 104 of this Report.

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
			Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
Hughli ...	Jehanabad— <i>Zawal</i> ...	99,905	.....	11.78	45	1.70	See page 101 to 104 and 124 to 126 of this Report.	Is taken from tanks which are used promiscuously and are more or less polluted, and from rivers where they run, but the dead are thrown into them. It was observed that those tanks which are situated outside of villages generally contain potable water. In villages away from rivers the water-supply is insufficient. See also pages 101 to 104 and 124 to 126 of this Report.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in a filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle, the growth of which is encouraged in order to protect the females more effectually from public view. See also pages 101 to 104 and 124 to 126 of this Report.
Hughli ...	Pelbah or Bausberiah— <i>Zawal</i> .	46,173	.....	17.38	77	1.14	Particulars are not yet available, but see general account on pages 101 to 104 and 124 to 126 of this Report.		
Hughli ...	Dhuniakhalli— <i>Zawal</i>	93,337	.....	17.57	31	1.67	Same as in Jehanabad	Same as in Jehanabad	Same as in Jehanabad.
Hughli ...	Balgur— <i>Zawal</i> ...	48,218	.....	19.99	2.17	83	Same as in Jehanabad	Same as in Jehanabad	Same as in Jehanabad.
Hughli ...	Pandunah— <i>Zawal</i> ...	66,113	73	22.15	23	1.89	Drainage is defective in some places, good in others. The villages are liable to be flooded during the rains. See also pages 101 to 104 and 124 to 126 of this Report.	Is taken from tanks and bunds. Some of the former are large and good, some muddy and some dry up. The latter are generally choked up. In some places the blis supply water. See also pages 101 to 104 and 124 to 126 of this Report.	Some villages are full of jungle and trees. The houses are neat and clean and dry, but ill-ventilated. Conservancy nil, and defecation is carried on in fields, gardens, and on road sides, banks of tanks, &c. See also pages 101 to 104 and 124 to 126 of this Report.
Hughli ...	Khamacool— <i>Zawal</i> ...	132,300	701	9.00	26	2.84	See pages 101 to 104 and 124 to 126 of this Report.	Is taken from tanks and ponds. The former contain good water in some villages and bad in other. Water from the Kaus nuddi and Damuda is also used largely. See also pages 101 to 104 and 124 to 126.	The houses are neat and clean, but ill-ventilated. No conservancy. Defecation takes place in fields, gardens and jungle. In some places cows are kept in the dwelling-houses. See pages 101 to 104 and 124 to 126.
Hughli ...	Gohat— <i>Zawal</i> ...	111,121	.....	16.15	97	99	Same as in Jehanabad	Same as in Jehanabad	Same as in Jehanabad.
Hughli ...	Serampore— <i>Town</i> ...	29,636	97	12.63	7.62	8.18	Drainage is defective. Almost all the drains are kutcha and rather deep, and many of these as well as some pucca ones are obstructed. The condition of the house drains is unsatisfactory. A proper system of surface drains and the filling up of the many excavations are much needed.	Is taken from the river Hughli and tanks. The river is fouled in various ways. The tank water is not fit for use, none of them having been protected from pollution and set apart for drinking purposes.	The conservancy arrangements are not quite satisfactory. Surface cleansing is properly attended to, excepting in the bye-lanes, and the sweepings, &c., are employed in filling up ponds and leveling low sites. The fluid refuse from some of the houses is said to be removed and buried. The drains and house scavenging are not well looked after. There are nine public latrines, but more are needed. The private latrines in two of the wards are cleaned by municipal mehters. Promiscuous defecation is largely carried on. The night-soil is kept in holes. There are innumerable filthy pits, tanks and water holes. The arrangements connected with inter-urine are not satisfactory. The sanitary condition of the coolie bustia is bad with regard to cleanliness, ventilation, drainage, roads, &c.

Hughli	Serampore—Baral ..	21,620	5'31	.....	1'34	1'38	Particulars are not yet available, but see general account on pages 101 to 104 and 124 and 125 of this Report.
Hughli	Boidyahatti—Towns ..	14,719	7'33	.....	2'31	2'37	Drainage is not satisfactory. There are many excavations and the drains are encroached upon and obstructed. See also page 127 of this Report.
Hughli	Shinghor or Boidyahatti—Baral.	59,184	12'90	.....	3'68	2'26	The drainage is defective in many places. The villages are liable to be flooded during the rains.
Hughli	Utterpara—Towns ..	5,510	4'71	.....	5'08	5'62	Drainage is defective. Most of the drains are kutola and require constant attention. The main drain passes through the Mukta nilah, and cannot be kept clean. See also page 127 of this Report.
Hughli	Havital—Baral ..	84,933	13'36	'01	2'22	'72	Same as in Jehanabad.
Hughli	Chundikola—Baral ..	84,387	10'35	.....	1'69	2'54	Is taken from tanks, some of which are large and good, while others are highly contaminated. See also pages 101 to 104 and 124 to 126 of this Report.
Hughli	Krishnagore—Baral ..	55,107	13'78	.....	2'39	'21	Particulars are not yet available, but see general account on pages 101 to 104 and 124 to 125 of this Report.
Howrah	Howrah—Towns ..	90,813	7'42	.....	3'77	5'81	Drainage is on the whole defective. The same set of drains conveys both sewage and storm-water. There is a main under-ground sewer about half a mile in length to which is conveyed a large quantity of sewage from a net-work of masonry and open drains. Those in or behind bustis generally become a series of stinking pools. The road-side drains are mostly kutola and generally very deep. A scheme which will allow this sewer to discharge its contents into the river is under contemplation.

* For the general Sanitary condition of the Villages in this District, see pages 101 to 104 and 124 to 126 of this Report.

Surface cleansing is fairly attended to. There are four public latrines and four urinals. The private privies are not in a satisfactory condition. The night-soil from the latrines and the offal from the slaughter-houses are hurried in two fields set apart for the purpose. Heaps of rubbish are to be found outside the dwellings, as these carts are insufficient to remove them. Jungle abounds. See also page 127 of this Report.

The houses are not properly ventilated. Jungle abounds in some villages. The paths, drains and passages between houses are in a filthy condition, and abound in vegetation. No conservancy. People defecate in fields or gardens.

Surface cleansing is attended to, but not sufficiently, the establishment being inadequate. The sweepings, &c., are thrown into hollows. There are cess-pools which are not always clean. Night-soil is buried outside of, but near the town. There are no urinals. There are many stagnant ponds and large excavations. The dead are buried in the compounds of houses. See also page 127 of this Report.

Same as in Jehanabad.

No conservancy. Defecation is carried on on road sides and banks of tanks. See also pages 101 to 104 and 124 to 126 of this Report.

The conservancy arrangements are on the whole satisfactory. Surface cleansing is efficiently performed, except in bustis, considering that the town is large and densely populated. The public latrines and urinals are insufficient in number, the southern portion of the town not having any. The private latrines which are numerous are under municipal management. Promiscuous defecation is still carried on. There is nothing to complain about the disposal of the night-soil. There are numerous hollows containing stagnant water. The condition of the municipal market is unsatisfactory and the numerous private cases are filthy and stinking. The sanitary condition of the bustis not yet reclaimed is bad.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF —

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM —				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Rev.	Cholera.	Bowel-com.			
Howrah ...	Bali-Town ...	14,815	.....	9-94	3-19	3-84	Drainage is very defective. The surface drains pass through several tanks before discharging into the main drains, and there are numerous small tanks, holes and low lands which interfere with drainage. A survey is to be made and levels taken for a complete drainage scheme. See also page 123 of this Report.	Is taken from tanks which receive the surface drainage of the town. Good tanks are a desideratum. See also page 123 of this Report.	Surface cleansing is attended to, but the sweepings, &c., are accumulated for ultimate utilization. The ground is covered with under wood and noxious vegetation. There is only one public latrine. The private privies are cleaned by private arrangement. The night-soil is trenched. See also page 123 of this Report.
Howrah ...	Dumjoor, including Sankral-Kural.	128,477	1007	9-93	2-71	3-90	Drainage is good. See also pages 101 to 104 and 124 to 126 of this Report.	Water is taken from tanks and chobed up ponds. Many of the tanks contain cool drinking water. See also pages 101 to 104 and 124 to 126 of this Report.	No conservancy. Here and there are a few private privies which are not kept clean. Defecation is carried on on road-sides and banks of tanks, and in jungles and fields. Some villages are full of jungle and forest trees. Cowdung is used as fuel. The Mahomedans bury their dead in their own lands. See also pages 101 to 104 and 124 to 126 of this Report.
Howrah ...	Ontheriah-Kural ...	81,345	902	9-73	7-77	3-31	No particulars are available, but see pages 101 to 104 and 124 to 126 of this Report.	Water is taken from tanks and ponds. See also pages 101 to 104 and 124 to 126 of this Report.	No conservancy. Defecation is carried on everywhere, particularly during the rains when people cannot resort to the fields. See also pages 101 to 104 and 124 to 126 of this Report.
Howrah ...	Jugantullubpore-Kural.	77,539	.....	10-63	1-40	3-05	See pages 101 to 104 and 124 to 126 of this Report.	See pages 101 to 104 and 124 to 126 of this Report.	See pages 101 to 104 and 124 to 126 of this Report.
Howrah ...	Amra-Kural ...	108,983	.....	9-18	3-7	4-01	Same as in Khanacool and Jehanabad in Hughli.	Same as in Khanacool and Jehanabad in Hughli.	Same as in Khanacool and Jehanabad in Hughli.
Howrah ...	Bagnan-Kural ...	63,563	.....	9-18	1-39	3-31	Particulars are not yet available, but see general account on pages 101 to 104 and 124 to 126 of this Report.		
Howrah ...	Syampur-Kural ...	63,861	.....	6-29	1-33	3-34	Particulars are not yet available, but see general account on pages 101 to 104 and 124 to 126 of this Report.		

2-Pergunnahs ...	Suburbs of Calcutta ...	251,429	102	14-27	7-33	6-63	The drainage is very defective, and whatever has been done to improve it has been undertaken without any plan or design. The drains consist of excavations on the sides of the road. They run anywhere and accumulate filth in different parts. Most of them discharge into certain main drains which lead either to Dhappa, the Balachhatta canal, the jills, or the river; but they do not act during the rains and submerge the fields. Stagnation of water is common. The drains require constant attention, and although a special establishment is maintained for this purpose, they are often neglected. A system of surface drains is urgently called for. See also pages 104 and 105 and 131 to 133 of this Report.	Is on the whole very unsatisfactory. It is taken from the river and tanks. The tanks in the interior belonging to private individuals are kept clean, but those in the densely populated portions of the town are highly polluted and very filthy. The Europeans, and the well-to-do natives who can afford to pay for it, obtain their water supply from the Calcutta hydrants. It is under contemplation to extend the Calcutta water-works scheme into these parts of the Suburbs which are proposed to be unincorporated with the Calcutta Municipality. See also pages 101 to 114 and 131 to 133 of this Report.	The work connected with surface cleansing and general conservancy is carried on by a contractor. It is executed unsatisfactorily, and the towns are not, on the whole, in the cleanly condition desirable. There are 46 latrines, but only 3 of them are free to the people, and a fee is levied for the use of the rest. The private privies are also under the care of the contractor, and the latrines are not rare in which both the public and private latrines are filthy and badly managed. The night-soil is trenched also by the contractor. Although much improvement has been effected in the houses, there are still several which are deficient in all sanitary requirements, although everywhere. Of the dusts those in which cattle are kept are the worst. Here, dung, litter, &c., are to be seen lying about in heaps, festering under a hot sun. The burial arrangements are very unsatisfactory. See also pages 101 to 104 and 131 to 133 of this Report.
24-Pergunnahs ...	South Suburban-Town.	51,553	61	5-45	2-36	1-78	The drainage is fair, but there is still much room for improvement. In some places, however, the drainage is very defective, particularly in the eastern tracts. See also pages 1-26 of this Report.	Is taken from tanks. There are five good tanks, but most of the others are foul and overgrown with weeds, and rank vegetation. The water of Jolly's Nulla and Kacrapooter Khal is also drunk. The former is considerably fouled. The water-supply is, on the whole, insufficient. See also page 126 of this Report.	The conservancy arrangements are very defective. There are no public latrines. Defecation is carried on generally in gardens, dense jungles, sides of roads, &c. There is a large number of filthy cowsheds, and liquid cowdung and urine are seen everywhere overflowing the huge pits in which they are deposited. See also page 126 of this Report.
24-Pergunnahs ...	Tollygunge - Barrackpore - Town.	47,793	.....	15-32	9-2	1-12	Drainage is defective. The drains are without levels, and the sewage of some flows into ponds the water of which is used for culinary purposes. See also pages 101 to 109 and 124 to 126 of this Report.	Is taken from tanks which are all filthy, and the water of some of which is said to be almost black. See also pages 101 to 109 and 124 to 126 of this Report.	There are no conservancy arrangements. Defecation is carried on everywhere. Sweepings and house-refuse are not removed. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs ...	Agartala or South Barrackpore - Town.	22,778	.....	14-29	3-34	2-90	The drainage is defective. The rainfall is deficient, and the surface water soaks into the ground, as the drains are not kept in good working order, and are wanting in levels.	Is taken from the river and tanks. The water of the latter is unwholesome.	The conservancy arrangements are very faulty. Surface cleansing is attended to, but not sufficiently. The sweepings, &c., are thrown on the fields. There are no public latrines, and few private ones. The people detest and commit other nuisances on the roads, and in fields and gardens. The night-soil from the private latrines is removed by private mechanics.
24-Pergunnahs ...	Nawabganj or North Barrackpore - Town.	18,013	705	12-37	8-15	3-36	The drainage is defective and obstructed in some parts.	Is taken chiefly from the Huzli river. Some people, chiefly Mahomedans, drink tank water.	The conservancy arrangements are imperfect. There are no public latrines; cess-pools full of sweepings and house refuse exist; night-soil passes into them; and the drains in the bazar are never cleaned.
24-Pergunnahs ...	Barrackpore, including Cantonment - Barrackpore.	21,060	.....	11-35	9-2	3-3	No particulars are yet available, but see general account on pages 101 to 109 and 124 to 126 of this Report.		
24-Pergunnahs ...	Busirhat - Town ...	20,450	.....	5-31	2-05	4-4	The drainage is defective. Karta is taken from the drains (which are all kucha) for building purposes.	Is taken from tanks, mostly from a big tank which is polluted as it is situated in the midst of a crowded locality, and is used for bathing and washing of utensils.	The conservancy arrangements are defective. There is only one cart for the removal of refuse, and so surface cleansing is quite inefficiently done. There are no public latrines. The cremation ground is near the bazar.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 109 and 124 to 126 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
24-Pergunnahs	Hussihat—Rural	.....	15.87	2.29	08	55,987	There is no drainage system and no drains. See also pages 101 to 109 and 124 to 126 of this Report.	Is taken from rivers and tanks which are full of weeds and filthy. See also pages 101 to 109 and 124 to 126.	Conservancy nil. There are numerous hollows and excavations full of filth and stagnant water. Defecation takes place every where. The dead are in many villages interred near houses. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	North Suburban—Town or Buranagore	03	11.84	7.60	4.80	29,962	The drainage is defective, but steps for its improvement are being taken.	Is taken from the river and tanks. It is sufficient, but much polluted. Necrolation is taking place for the extension of the Calcutta water-works scheme to this town.	Surface cleansing is attended to, and the sweepings, &c., utilized in filling up hollows, or they are deposited in appointed places. The huts belonging to the jute mills are in a filthy and unsanitary condition. Pits and hollows containing vegetable debris and stagnating water abound. There are only ten public latrines, but they belong to private individuals. The private privies are under municipal management. The night-soil is trenched.
24-Pergunnahs	Rajpur—Towns	.....	4.91	3.7	56	10,876	See page 127 of this Report	See page 127 of this Report	See page 127 of this Report.
24-Pergunnahs	Sonarpore—Rural	03	15.94	1.73	40	31,358	No particulars are yet available, but see general account on pages 101 to 109 and 124 to 126 of this Report.	See page 127 of this Report.	See page 127 of this Report.
24-Pergunnahs	Naihatti—Towns	.....	14.30	5.10	2.30	21,533	The drainage is fair, but not systematic	Is taken from the river, and is naturally good	The conservancy arrangements are very unsatisfactory. Surface cleansing is scarcely attended to. House-sweepings and refuse are deposited in pits and hollows within the compounds of the houses. There are some public latrines, but they are insufficient. The night-soil is trenched. The arrangements connected with interment and cremation are objectionable.
24-Pergunnahs	Naihatti—Rural	.....	22.65	3.65	46	55,459	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Baduria—Towns	05	6.16	3.18	1.09	19,135	The drainage is fair, but not systematic	Is taken from the river and the numerous tanks in the town.	Surface cleansing is attended to, but not efficiently. There are no public latrines. The night-soil from the private latrines is thrown on the fields or into the river.
24-Pergunnahs	Baduria—Rural	.....	16.64	2.69	11	104,606	The drainage is defective. There are no drains. There is a swamp extending along several villages. See also pages 101 to 109 and 124 to 126 of this Report.	Is taken from the river and tanks. Jute-steeping is carried on in some tanks. See also pages 101 to 109 and 124 to 126 of this Report.	Conservancy nil. Defecation takes place every where. The dead are interred in many villages near houses. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Dum-Dum—Rural	.....	12.03	2.97	2.13	31,378	See pages 101 to 109 and 124 to 126 of this Report.	Is taken from tanks, ponds and excavations full of weeds. See also pages 101 to 109 and 124 to 126 of this Report.	Some villages contain pucca houses. See also pages 101 to 109 and 124 to 126 of this Report

24-Pergunnahs	Barnet-Bural	73,131	.....	19'03	77	17	See pages 101 to 109 and 124 to 126 of this Report.	From tanks and choked up ponds which are general. See also pages 101 to 109 and 124 to 126 of this Report.	The houses are scattered. Many villages contain thick bamboo tops and trees and many excavations. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Hosannah and Takee-Bural	67,227	.....	13'35	4'20	1'02	See pages 101 to 109 and 124 to 126 of this Report.	Taken from tanks covered with weeds. See also pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Bariepoore-Bural	75,830	.....	11'44	1'91	3'36	The ground being generally elevated, the natural drainage of the villages is good. See also pages 101 to 109 and 124 to 126 of this Report.	From tanks and ponds, some of which dry up during the hot season, and several are bad and several in pretty good condition. See also pages 101 to 109 and 124 to 126 of this Report.	In some villages the houses are crowded together. No conservancy. In some the pathways are used as latrines. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Joyanore-Town	Data not available.				See page 127 of this Report	See page 127 of this Report	See page 127 of this Report	See page 127 of this Report.
24-Pergunnahs	Joyanore-Bural	76,140	.....	7'45	4'87	2'23	Special account is not yet available, but see pages 101 to 109 and 124 to 126 of this Report for general account.		
24-Pergunnahs	Diamond Harbour-Bural	52,823	.....	8'57	2'15	4'47	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Atchipoore-Bural	62,536	.....	12'44	1'08	5'45	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Bistopore-Bural	71,717	.....	9'57	1'54	1'07	See pages 101 to 109 and 124 to 126 of this Report.	Is taken from tanks and ponds. The water of the former is generally good, but the latter are generally choked up. See also pages 101 to 109 and 124 to 126 of this Report.	The houses are neat and clean and dry, but ill-ventilated. No conservancy. Defecation is carried on in fields, gardens, and on roadsides and banks of tanks. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Bhangor-Bural	78,852	01	14'38	3'03	6'07	No drainage. See also pages 101 to 109 and 124 to 126 of this Report.	Is taken from shallow tanks which are full of weeds and dry up—also from khals and choked up ponds. In some places wells are dug when the tanks dry up. In Atrebad no sweet water is obtainable, and it has to be brought from elsewhere. See also pages 101 to 109 and 124 to 126 of this Report.	Personal cleanliness is observed by the people generally. The houses are neat and tidy, but ill-ventilated, and their surroundings are filthy. Conservancy absent. The sweepings, house and cowshed refuse are heaped near houses until wanted for manure. Excavations containing filthy and stagnant water abound. Defecation takes place on the sides of khals and everywhere. The dead are often interred in and near houses. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Deygaunge-Bural	53,516	.....	17'17	2'34	1'03	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Alabra-Bural	75,429	.....	14'30	3'47	1'11	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Barwa-Bura	49,292	.....	14'11	4'03	3'34	See pages 101 to 109 and 124 to 126 of this Report.	Is taken from shallow tanks, some of which are covered with weeds, or contain decomposing vegetation, falling leaves, and refuse water. See also pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs	Canning-Bural	47,518	.....	9'23	6'37	2'29	Special account is not yet available, but for general account, see pages 101 to 109 and 124 to 126 of this Report.		

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Typhoid.	Cholera.	Bowel-complaints.			
24-Pergunnahs ...	Sultanpore or Kulpi— <i>Rural</i> .	90,319	.....	12'74	4'96	'38	See pages 101 to 108 and 124 and 125 of this Report.	See pages 107 to 109 and 134 to 136 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs ...	Devipore— <i>Rural</i> ...	49,455	....	8'93	'80	1'56	See pages 101 to 119 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.	See pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs ...	Bantipore— <i>Rural</i> ...	7107,275	.....	9'69	3'02	'37	See pages 101 to 109 and 124 to 126 of this Report.	Is taken from tanks, ponds, and rivers. Some of the tanks are good, but some dry up in summer. The ponds are choked up, but most of them are used for culinary and other domestic purposes. See also pages 101 to 109 and 124 to 126 of this Report.	The houses are ill-ventilated, but neat and clean, the walls of some being of interlaced bamboo. No conservancy, and defecation takes place in fields and jungles. Some villages around in jungle and bamboo clumps. The dead are buried in the compounds of houses. Cow-dung is used as fuel. See also pages 101 to 109 and 124 to 126 of this Report.
24-Pergunnahs ...	Mathurapore— <i>Rural</i>	50,463	.....	10'22	5'96	'13	Special account is not yet available, but see general account on pages 101 to 109 and 124 to 126 of this Report.		

Nudda* ...	Kishnaghur—Town ...	27,477	.....	11-9	3-16	'76	The drainage is very defective. The outlets are non-effective, and surface water takes days to run off. Almost all the drains, both pucca and kutcha, discharge into the tanks, carrying into them all kinds of filth and unclean washings. The house sewage water also passes through the drains.	Drinking water is taken from the river, 51 tanks and 21 masonry wells. Two of the tanks and all the wells are well-protected. The land around the rest of the tanks is not kept clean, and the tanks in the bed of the Anjona river are, with one exception, in a foul state. There are many private badly-protected wells, but they are used for washing of clothes, &c.	The conservancy arrangements are not satisfactory. Surface cleansing is attended to, the sweepings, &c., being put into hollows. House scavenging is insufficient, and house sweepings, refuse, &c., are in some cases stored in pits for manure. Jungle, excavations, and accumulations of foul water abound. There are 15 of Major Kamrui's moveable latrines and one ordinary latrine. They are insufficient. 773 private privies in two wards are under municipal management. About 200 well-privies still exist. The night-soil from all latrines is trenched. Defecation is carried on on the banks of tanks and low lands, and in drains, &c. The arrangements connected with the disposal of the dead are unsatisfactory.	See pages 112 and 113 of this Report.
Nudda ...	Kishnaghur—Rural ...	77,887	.....	16-30	6-38	'29	See pages 112 and 113 of this Report ...	See pages 112 and 113 of this Report ...	See pages 112 and 113 of this Report.	
Nudda ...	Santipore—Town ...	28,687	.....	5-92	2-32	'20	The drainage is defective. There are drains to convey the surface water to the river, but in some parts of the town it soaks into the soil, which is sandy, or drains into pits and low lands. See also page 117 of this Report.	Drinking water is taken from the rivulet and khals generally. Their water is said to be good. There is also one reserved tank with good water. Moreover every house has a well, and there are some private tanks. Their water is used for culinary, bathing and other purposes. See also page 117 of this Report.	Surface cleansing is systematically attended to. House fluid refuse is not allowed to enter the drains. There are no public or private surface privies, but there is a large number of well-privies. In several cases burials are carried on in compounds of houses. See also page 117 of this Report.	See pages 101 to 104 and 109 of this Report.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 104 and 109 of this Report.

Nudda	Santipore—Rural ..	24,177	.....	18-90	9-71	'04	See pages 110 and 111 of this Report ..	Water is taken from tanks which are used promiscuously, and are more or less polluted and often the supply is insufficient. Those of the tanks which are situated outside the villages generally contain potable water. Where there are rivers low castes generally throw their partially burnt dead into them. See also pages 110 and 111 of this Report.	The spaces between the houses abound in superfluous vegetation. The paths and drains are in filthy condition. The villages, particularly those inhabited by Mahomedans, are surrounded with jungle, the growth of which is encouraged in order to hide the females more effectually from public view. See also pages 110 and 111 of this Report.
Nudda	Kushtha—Town ..	9,717	.....	13-99	1-13	2-03	The drainage is defective. There are kutchha drains which discharge into the river. See also page 113 of this Report.	Is taken from the rivers. At times want of good water is much felt. See also page 118 of this Report.	Surface cleansing is not attended to. The house refuse is allowed to lie about, and the house fluid refuse is either absorbed or passes to the street drains. There is only one public latrine near the bazar. Eight urinals are also in it. There are 27 privies, and happily only one well-privy. The private privies are under municipal management. The night-soil is removed to a place outside the town. Burials in compounds of houses is general, although there is a burial-ground and graves are dug only three to three and a-half feet deep. See also page 118 of this Report.
Nudda	Kushtha—Rural ..	17,736	.....	27-13	4-34	'11	Same as in Santipore. See also page 116 of this Report.	Same as in Santipore. See also page 116 of this Report.	Same as in Santipore. See also page 116 of this Report.
Nudda	Ranaghat—Town ..	8,693	'11	4-35	3-68	'11	The drainage is defective. There are main drains leading to the thals, and some of the roads have side drains, but the drains are encroached upon and obstructed. See also page 116 of this Report.	Taken from rivers, tanks, and wells. There are 1,000 private and five public wells and three municipal and four private tanks. See also page 116 of this Report.	Surface cleansing is attended to, the street and house sweepings being utilized in filling up pits and excavations. There are no public and private surface latrines, but there are 600 well-privies. See also page 116 of this Report.
Nudda	Ranaghat—Rural ..	75,752	...	17-60	3-94	'36	In some villages the drainage is obliterated by house refuse. Some villages are low and water-logged. See also pages 109 and 110 of this Report.	Water is taken from silted up tanks full of weeds, and is muddy; river water is also used, but the tanks and beds thereof are fouled by defecation. Jute-streeping causes much impurity to water. See also pages 109 and 110 of this Report.	The inhabitants, chiefly Mahomedans, are uncleanly in their habits, but the Hindu villages are cleaner. The fluid refuse from cow-houses is allowed to lie about them, and the cow-dung is stored in pits. Where there are Gwalla bums they are kept very filthy and are covered with rank vegetation. Some villages abound in jungle. There are hollows and excavations containing water full of vegetation and animal impurities. The Bysnabs bury their dead at a small depth in the compounds of their houses. See also pages 109 and 110 of this Report.
Nudda	Meherpore—Town ..	5,731	...	13-96	5-06	2-79	There is no drainage. Only the roads are provided with culverts and water-ways. See also page 118 of this Report.	Is taken from wells, every house having them, and from a large and excellent tank. There is a river also, but the tank water is preferred. See also page 118 of this Report.	The conservancy establishment is altogether inadequate, in fact there is only one mehter regularly employed. Surface cleansing is not therefore attended to, and there is no house scavenging, the house-refuse being disposed of by the people as convenient to them. There are no public or private surface latrines, but there are over 100 well-privies, belonging to the well-to-do. They are only cleaned when full, which takes years. See also page 118 of this Report.
Nudda	Meherpore—Rural ..	65,954	'03	24-94	7-32	'19	See pages 114 and 115 of this Report ..	See pages 114 and 115 of this Report ..	See pages 114 and 115 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—										
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.	
			Small-pox.	Fever.	Cholera.	Howel-com-plants.				
Nuddes	Novodivapa—Town	14,105	.....	9.28	6.80	1.27	The drainage is very defective. The main road has been provided with side drains and the house drains are connected with them; but they have no outlets, and consequently much of the surface drainage collects in the houses and excavations about the town. See also page 118 of this Report.	Is taken generally from the river and khals for drinking and culinary purposes. The water of the former is good, but that of the latter is polluted chiefly by jute-steeping. See also page 118 of this Report.	Surface cleansing is attended to. There appears to be no permanent latrines for the towns-people, but temporary latrines are put up for the pilgrims when they come in for the mela held here; the night-soil which is removed to the fields and buried in pits 5 to 6 feet deep. There are no surface private privies, but there are 434 well-privies which are cleaned from time to time, and their contents buried near them in pits 8 to 10 feet deep with a layer of earth over it. The dead are cremated, but are also cast into the river. See also page 118 of this Report.	
Nuddes	Kumarkhali—Bural	98,247	01	22.12	5.11	2	See page 118 of this Report	Is taken from the rivers, bhlis and tanks. The water of some of the tanks stinks owing to the dragging of nets through them by fishermen. See also page 116 of this Report.	Many of the villages are surrounded by bhlis and are low. The dead are thrown into rivers. See also page 118 of this Report.	
Nuddes	Chagdah—Town		Data not available.				See page 117 of this Report	See page 117 of this Report	See page 117 of this Report.	
Nuddes	Chagdah—Bural	64,620	.....	24.38	1.70	13	The drainage is defective generally, but in some villages it is fair. Some of the villages are situated on high and some on low lands, and the latter are consequently water-logged. The roads and footpaths serve as drains. See also page 110 of this Report.	Is taken from rivers, tanks, wells, bhlis, khals and ponds. Some of the tanks are dirty, shallow, and full of rank vegetation and jungle. Some have silted up and get dry, and their tanks are used for delivication, and branches and twigs of trees are put into them for fishing. The wells are generally good. The bill water is good in some places, and much polluted in others. When they dry up their beds are dug for water. Some of the khals have silted up. There are also hollows and excavations in which jute is largely steeped, and which are polluted in other ways, and still their water is used for all purposes, including drinking. See also page 110 of this Report.	Conservancy as usual, but in some places it is cared for to some extent. Many villages are full of trees and bamboo tops. Refuse and cowdung are collected in heaps, chiefly by Mahomedans. Here and there cowdung is used for fuel. Delivication is carried on on foot-paths. Some villages abound in rank vegetation, jungle shrubs, stagnant water, holes and ditches. Some are open and airy. The gowalla bustas are very filthy. The dead are buried in compounds of houses, and the pauper and infant dead are cast into the river, and dead cattle are thrown about. Jute is steeped in water holes. See also page 110 of this Report.	
Nuddes	Jaguli—Bural	38,306	.....	28.35	2.87	.....	Special account is not yet available, but see general account on pages 101 to 104 and 109 of this Report.			
Nuddes	Chudanga—Bural	21,818	04	23.28	2.10	1.31	Natural drainage is defective, and consequently surface water cannot be carried off quickly and lies stagnant and soaks into the soil about the houses. See also pages 101 to 104 and 109 of this Report.	Is taken from wells and tanks. Some difficulty is felt in summer, as then the tanks dry up. Villages on the banks of the rivers, khals or bhlis obtain their water-supply from them. The banks of rivers are used as latrines; the bhlis dry up causing scarcity of water; and the wells are contaminated by surface pollution. See also pages 101 to 104 and 109 of this Report.	Conservancy absent. Household cleanliness is not cared for. Delivication in and about some villages is common. Cowdung is heaped up or kept in pits, emitting disgusting odour. Jute is steeped in hollows and tanks in the midst of habitations. In some villages dead bodies are buried in dwelling houses. See also page 101 to 104 and 109 of this Report.	

Nudda	...	Hanakhali—Rural	45,340	.....	17'80	6'72	'04	Natural drainage is defective, and consequently surface water cannot be carried off efficiently, and lies stagnant and soaks into the soil about the houses. See also pages 101 to 104 and 109 of this Report.	Is taken from tanks, some of which are in bad condition, and from rivers. In some villages there are ponds which dry up in summer when wells are dug. See also pages 101 to 104 and 109 of this Report.	Some of the villages are on high ground; some level with the surrounding ground; some are surrounded by stagnant bhis and swamps. Conservancy is not satisfactory. People resort for defecation to waste lands, but away from habitations. The dead are buried in the compounds of houses. See also pages 101 to 104 and 109 of this Report.
Nudda	...	Kishengunge—Rural	32,701	.....	17'82	6'78	'09	Some of the villages are situated on high and some on low land. See also pages 113 and 114 of this Report.	Is taken from rivers, tanks, wells, khals and bhis. Most of the tanks are shallow, silted up, covered with rank vegetation, and their banks are used for defecation. Some dry up in the hot weather. The wells and bhis contain food water, but some of the latter are polluted with weeds. Some of the khals have silted up. See also pages 113 and 114 of this Report.	Some of the villages are open and free, but many are surrounded with jungle and bamboo clumps. In some rank vegetation and stagnant water holes abound. House sweepings, refuse, &c., are accumulated. Here and there cowdung is used for fuel. The Gowalla busts are very filthy. The pauper dead are generally thrown into the river. See also pages 113 and 114 of this Report.
Nudda	...	Chapra—Rural	63,509	.....	16'98	6'23	'04	In some villages the drainage is fair; in others bad, and stagnation and water-logging occurs. See also page 113 of this Report.	Is taken from rivers, tanks, wells and bhis. River water is good, but branches and twigs are placed in it, in some places for fishing and moso and aquatic plants cover it. Some of the tanks are shallow. See also page 113 of this Report.	Some of the villages are open and airy. Some abound in rank vegetation, cattle litter and pits, hollows, ditches, containing stagnant water. Accumulations of refuse and sweepings are to be seen in many. Jute is used in water holes. The pauper and infant dead are thrown into the river, and the dead cattle are thrown anywhere. See also page 113 of this Report.
Nudda	...	Nakaspura—Rural	59,762	.....	20'63	1'05	'03	See page 114 of this Report	See page 113 of this Report	See page 114 of this Report.
Nudda	...	Kaligunge—Rural	54,192	.....	18'19	1'43	'01	See page 114 of this Report	See page 114 of this Report	See page 114 of this Report.
Nudda	...	Tehatta—Rural	89,160	.....	20'64	2'06	'12	See page 116 of this Report	See page 116 of this Report	See page 116 of this Report.
Nudda	...	Kurempur—Rural	102,754	009	22'33	3'52	'20	See page 115 of this Report	See page 115 of this Report	See page 115 of this Report.
Nudda	...	Gaugni—Rural	74,955	'02	20'65	3'14	'32	See page 115 of this Report	See page 115 of this Report	See page 115 of this Report.
Nudda	...	Downtipur—Rural	74,178	.....	23'97	6'34	'40	Special account is not yet available, for general account, see pages 101 to 104 and 109 of this Report.		
Nudda	...	Nowpara—Rural	136,713	.....	25'52	3'20	'23	Special account is not yet available, but for general account, see pages 101 to 104 and 109 of this Report.		
Nudda	...	Bhaluka—Rural	41,929	.....	24'34	2'19	1'00	The drainage is defective. See also pages 101 to 104 and 109 of this Report	Water is taken from the river and tanks. When the latter dry up, in some villages, the river is resorted to. See also pages 101 to 104 and 109 of this Report.	Same as in Santipore. See also pages 101 to 104 and 109 of this Report.
Nudda	...	Bhadalia—Rural	68,134	.....	21'04	1'49	'03	Same as in Santipore	Same as in Santipore	Same as in Santipore.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF -

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM -				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-com-plaints.			
Nuddes	Mamdaing-Barel	89,947	....	23.92	2.76	20	Drainage of defective. The ditches here and there serve for drains, but they have no out-fall and are defective in level. The ground is low. See also page 112 of this Report.	Is taken from tanks, wells and bhils which are not well kept, and are subject to pollution of every kind, including human faeces. This thana is very sparsely provided with natural water-courses, the only provision of this nature being the river Bhaluye. See also page 112 of this Report.	Surface cleansing is not attended to generally. The houses are filthy. Heaps of festering cattle-dung are to be met with in most villages. Defecation is carried on everywhere even in the midst of habitations. The waste grounds and ditches are full of garbage, bones of cattle and filth of every description. See also page 113 of this Report.
Nuddes	Damurhuda-Barel	63,014	04	20.15	10.60	69	The drainage is bad. Water stagnates and the soil is water-logged. See also page 111 of this Report.	Water is taken from the river, tanks and bhils. There are also many dirty ponds and wells. Many of the tanks are surrounded with jungle and contain rank vegetation, and their banks are polluted with animal impurities; the rivers receive surface washings; the bhils contain decay-ing vegetation, and it is the practice here to steep jute in water-reservoirs, the water of which is drunk. See also page 111 of this Report.	Some of the villages are full of bamboo tops which preclude free perflation of air. Manure about with rank vegetation, refuse heaps, animal excreta, litter, dung, &c. Many hollows containing foul stagnant water exist. Defecation is carried on on roads and footpaths, waste lands, banks of tanks, &c. Dead cattle are to be seen lying about. See also page 111 of this Report.
Nuddes	Kalupole-Barel	39,396	....	32.21	3.63	....	The drainage is defective. The land is water-logged and rain water does not dry for want of outfall. See also page 111 of this Report.	Is taken from rivers, tanks and bhils. Some of the tanks dry up in the hot weather. The bhils are covered with weeds and vegetation, and branches and twigs of trees are placed in them by fishermen. Some of them, however, contain good water. The rivers also are covered with aquatic plants and weeds. See also page 111 of this Report.	Many villages abound in rank vegetation and are sur-rounded by bamboo clumps. Heaps of cow-dung and refuse are to be met with. The gwalla bustis are particularly unclean. Hollows and pits, surrounded with overhanging bamboos, in which jute is steeped, and containing decomposing cattle-dung and foul water, are numerous. In some villages the dead are buried in the compounds of houses. See also page 111 of this Report.
Nuddes	Jibunnagore-Barel	40,120	....	17.99	7.90	27	See page 112 of this Report	See page 112 of this Report	See page 112 of this Report.
Jessore	Kotwalli (Jessore)-Town.	8,465	....	15.77	2.94	94	The drainage is on the whole fair. Five main drains, and several smaller ones, joined to them, drain the town into the river Bhayrub. All the drains are not perfect, but they are kept in efficient working order. They are however obstructed here and there.	Is taken from the river by those who live near it, and from tanks and wells by others. Six of the tanks have been reserved for drinking purposes, but they are not properly used. 20 of the wells have been similarly treated and protected from pollution. The river-Bhayrub-becomes covered with weeds and water plants and a stagnant pool in the cold season. The water of the private wells and tanks is extremely foul. The Europeans and the better classes of natives, however, obtain their water from the Jail, one of the tanks in which contains excellent drinking water. On the whole the water-supply is insufficient.	The conservancy arrangements are very unsatisfactory. Surface cleansing is not fully and properly attended to. The sweepings and rubbish are mostly thrown in corners and the backs of the houses. Some are used in filling up excavations and low lands. The dung and refuse from the cattle sheds and stables are not properly disposed of. There are five public latrines. The private privies are under municipal management. The night-soil is trenched but imperfectly, and the urine mixed with water is thrown on waste places. Promiscuous defecation is very general. There are many foul water holes. The arrangements connected with internments are unsatisfactory.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 109 of this Report.

Jessore	...	Kotwali—Rural	...	153,889	...	15'10	7'45	'03	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Keshupore—Rural	...	85,440	...	17'44	'22	'01	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Jhenida—Rural	...	102,627	...	18'52	5'29	'01	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Kotchandpore—Rural	...	44,038	...	24'47	7'17	'20	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Magura—Rural	...	159,163	...	17'11	6'54	'11	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Narail—Rural	...	151,982	...	17'59	'92	'08	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report. In village Sidhrupah every house has a garden of fruit trees, chiefly cocoanut and arecanut. The roads are kept clean, and are provided with side-drains.
Jessore	...	Bagarpara—Rural	...	63,909	...	17'53	2'53	'03	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Monirampore—Rural	...	155,611	...	18'53	1'22	'01	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Godkhali—Rural	...	67,420	...	20'46	5'63	'07	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Kaligunga—Rural	...	89,202	...	20'07	6'04	'03	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Harinakunda—Rural	...	41,865	'02	25'25	2'05	'09	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Shalkhia—Rural	...	50,464	...	17'35	5'54	'01	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Mamudpore—Rural	...	83,677	...	21'36	6'52	'14	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Kalia—Rural	...	72,947	'01	13'59	3'11	'19	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Lohagura—Rural	...	103,583	...	16'54	1'15	'04	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Saikiopa—Rural	...	138,505	'007	16'50	2'72	'05	See pages 101 to 109 of this Report	...	See pages 101 to 109 of this Report.
Jessore	...	Bongong—Rural	...	50,668	...	14'56	2'17	'03	See pages 101 to 109 of this Report	...	Is taken from kha's and bhils. See also pages 101 to 109 of this Report.
Jessore	...	Gaighatta—Rural	...	50,223	...	17'53	1'43	.....	See pages 101 to 109 of this Report	...	Is taken from the river, tanks and bhils. The bhils are large in some places and contain good water. See also pages 101 to 109 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DRAINS PER 1,000 OF POPULATION FROM—				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Cholera.	Bowel-com.	Plague.				
Jessore	Garripotha—Rural	.....	5'80	.....	.....	61,052	See pages 101 to 109 of this Report	See pages 101 to 109 of this Report	See pages 101 to 109 of this Report.
Jessore	Mohespore—Rural	.....	6'51	.....	.....	112,137	See pages 101 to 109 of this Report	See pages 101 to 109 of this Report	See pages 101 to 109 of this Report.
Jessore	Sharsha—Rural	.....	4'41	.....	.....	79,046	See pages 101 to 109 of this Report	Is taken from tanks. It is insufficient in quantity and bad in quality. See also pages 101 to 109 of this Report.	See pages 101 to 109 of this Report.

The conservancy arrangements are not quite satisfactory. Surface cleansing is fairly attended to, but fluid refuse is not properly disposed of. There are 11 public latrines, but they are insufficient. They and some of the private latrines are kept in good order by municipal officers. The other private privies require looking after. Promiscuous defecation is very general. The night-soil is properly trenched. There are innumerable filthy pits and hollows full of rotting vegetation.

Is taken chiefly from the Bhagirathi river, wells and tanks. One of the tanks and three of the wells have been protected from pollution and reserved for drinking purposes. The rest of the tanks are in bad condition. The wells are in fair order, but they are seldom resorted to for drinking water.

The drainage is defective. The main drains have no proper levels, do not allow quick passage of water, and keep the town under water when the hills and rivers are in flood. Many road-side drains empty into tanks and hollows, and keep the neighbouring localities water-logged. The house drainage is unsatisfactory. The compounds of many houses are below the level of the street drains.

Murshidabad	Berhampore—Town	.....	21'92	6'43	3'77	25,605	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Saigunge—Rural	.....	21'56	3'35	.....	8,546	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Gorabarat—Rural	.....	29'20	2'21	.....	12,633	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.

The conservancy arrangements are mostly good. Surface cleansing is properly attended to, and the fluid refuse and kitchen refuse is disposed of in the trenching grounds. There are 18 public latrines kept in good order. The private privies are mostly well constructed and properly attended to by their owners. Promiscuous defecation is, however, still practised. The night-soil is properly trenched, and a portion of the trenched ground has been farmed for cultivation. There are numerous pits and hollows all over the town. The arrangements connected with the disposal of the dead are not satisfactory.

Is taken from the river Bhagirathi, tanks and wells. One of the tanks and two of the wells have been reserved for drinking purposes. The private tanks are in fair condition, and arrangements exist for replenishing several of them with river water. The private wells are more or less protected from pollution, but they are chiefly used for washing purposes.

The drainage is defective. Some of the drains are badly levelled and have not sufficient outlet into tanks and hollows. House drainage is also unsatisfactory, the drains emptying into cess-pits within or just outside of the premises.

Murshidabad	City Murshidabad	.....	33'13	3'13	2'37	39,231	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Shahansagar—Rural	.....	23'73	3'31	.....	9,523	See page 120 of this Report	See page 120 of this Report.	See page 120 of this Report.
Murshidabad	Asonpur—Rural	.....	36'77	1'96	.....	11,177	See pages 119 and 120 of this Report	See pages 119 and 120 of this Report.	See pages 119 and 120 of this Report.

* For a general account of the Sanitary condition of the Villages in this District, see pages 101 to 104 and 118 and 119 of this Report.

Murshidabad	Mannabazar—Baral	1,979	94.25	1.51	.....	1.96	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Kandi—Town	10,661	13.23	1.68	1.96	Information is not yet available.		
Murshidabad	Kandi—Baral	79,659	16.43	2.27	07	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Jangipur—Town	10,187	12.66	2.35	7.45	Information is not yet available.		
Murshidabad	Buchunathgunge—Baral	57,569	17.30	01	10	See page 121 of this Report	See page 121 of this Report	See page 121 of this Report.
Murshidabad	Dewanerai—Baral	55,066	19.46	03	21	See pages 121 and 122 of this Report	See pages 121 and 122 of this Report	See pages 121 and 122 of this Report.
Murshidabad	Barwa—Baral	67,912	12.97	38	01	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Bharatpur—Baral	108,025	15.41	1.54	07	See page 122 of this Report	See page 122 of this Report	See page 122 of this Report.
Murshidabad	Goas—Baral	78,423	18.06	35	05	See pages 120 and 121 of this Report	See pages 120 and 121 of this Report	Abounds in dense jungle. Also see pages 120 and 121 of this Report.
Murshidabad	Jeltinghi—Baral	108,568	21.38	79	02	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Doulatbazar—Baral	39,568	23.57	42	17	See page 120 of this Report	See page 120 of this Report	See page 120 of this Report.
Murshidabad	Hariharpara—Baral	57,135	16.39	2.85	08	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Nowada—Baral	47,559	17.39	4.10	21	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Gokurn—Baral	42,446	15.07	1.34	28	See page 123 of this Report	See page 123 of this Report	See page 123 of this Report.
Murshidabad	Kaliangunge—Baral	37,206	17.53	1.74	26	See page 121 of this Report	See page 121 of this Report	See page 121 of this Report.
Murshidabad	Badurhat or Segur-dighi—Baral	27,559	15.62	3.06	14	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.
Murshidabad	Bhagwanpola—Baral	57,238	21.57	1.06	13	See page 119 of this Report	See page 119 of this Report	Abounds in dense jungle. See also page 119 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Population.	Domestic cleansing.			
		Simultaneous.	Fever.	Cholera.	Plague.		Drainage.	Water-supply.		
Murshidabad	Shamshegunj—Rural	77	18-51	37	05	66,536	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.		
Murshidabad	Suti—Rural	01	18-28	15	03	66,556	See page 122 of this Report	See page 122 of this Report.		
Murshidabad	Mirzapur—Rural	.....	14-30	41	02	46,466	See pages 101 to 104 and 118 and 119 of this Report.	See pages 101 to 104 and 118 and 119 of this Report.		
Murshidabad	Kharram—Rural	.....	13-03	186	01	54,018	See page 122 of this Report	See page 122 of this Report.		
Khulna	Khulna—Town	.....	17-36	7-93		6,178	The drainage is fairly good. There are three outfall drains which discharge into the hill, and most of the road-side drains lead into the river. But another outfall drain is required. The house compounds and the ground generally are cut up into ditches and ponds where water lodges and stagnates, and this process is going on without check.	Is taken from the river and in places distant from the river in tanks. The river water is tolerably good, except during the rains, when it is polluted by the overflow of stagnant bills. The tanks are miserably bad. Much of the water required for culinary and domestic purposes is drawn from weedy ponds and shallow ditches, even by those who reside near the river.	The conservancy arrangements are deplorably bad. Surface cleansing is very much neglected. There are no public latrines. Defecation is carried on everywhere, and the fecal matter is washed into the ditches and tanks used for domestic purposes. The private privies are miserably constructed, the fecal matter, urine, and washings falling on the ground and polluting it and the river. The night-soil is thus not buried, but is simply covered with a little earth at a spot within five or six feet of the place where it falls. Intermittent in house compounds is general. Dead bodies are thrown into the river, and the pauper and contagious disease dead are not cared for. The private market is ill-kept, has bad drainage and no atrium.	
Khulna	Khulna—Rural	.....	16-31	2-25	17	121,212	See pages 101 to 109 of this Report	Taken from rivers, tanks, and choked up ponds. See also pages 101 to 109 of this Report.	Bamboo fences and trees around houses are common. In some villages the jungle is so dense that it is dark in the day time, and harbours wild boars and leopards. Bank vegetation abounds. See also pages 101 to 109 of this Report.	
Khulna	Satkhira—Town	22	12-93	80	11	8,738	There is no regular system of drainage. The road-side drains, excepting those recently made, are not efficient, being deficient in levels and obstructed.	Is taken from tanks which are used for all purposes and being excavated in water-logged soil cannot be good. A khal, the water of which is simply filthy, is also resorted to.	Surface cleansing is very partial and imperfect, and the sweepings are thrown on the banks of a water-course which is fast silting up. There are no public latrines, and the private ones are few in number, and cleaned only occasionally. The night-soil is thrown on some distant field. Defecation is carried on in jungles, gardens and other waste places. Intermittent takes place in the compound of houses, and dead bodies are thrown into the khal. The pauper dead are disposed of by the Municipality.	
Khulna	Satkhira—Rural	.....	17-52	1-39	12	87,376	There are no drains. See also pages 101 to 109 of this Report.	Is taken from tanks, the water of which is muddy. See also pages 101 to 109 of this Report.	Surface cleansing is not attended to. Conservancy nil. People defecate everywhere. Jungle abounds. The dead are interred in and near houses. See also pages 101 to 109 of this Report.	

* For a general account of the Sanitary condition of the villages in this District, see pages 101 to 109 of this Report.

Khulna ..	Dumria and Talla— Rural.	189,020	700	2053	1'33	715	See pages 101 to 108 of this Report	..	..	..	See pages 101 to 108 of this Report.
Khulna ..	Bitachatta—Rural ..	37,501	.....	16'37	4'55	729	See pages 101 to 108 of this Report	..	..	..	See pages 101 to 108 of this Report.
Khulna ..	Pailgatcha—Rural ..	70,473	.....	17'26	1'36	731	See pages 101 to 108 of this Report	..	..	..	See pages 101 to 108 of this Report.
Khulna ..	Bagerhat—Rural ..	137,818	.....	21'48	1'29	707	There are no drains. See also pages 101 to 109 of this Report.	..	..	..	The floors of the houses are damp, and they are, in places, surrounded with jungle and arumant and other palms. Surface cleansing, conservancy, &c., nil. The dead are buried within homesteads. See also pages 101 to 109 of this Report.
Khulna ..	Molabhat—Rural ..	50,478	.....	11'50	1'73	715	See pages 101 to 109 of this Report	..	..	..	See pages 101 to 109 of this Report.
Khulna ..	Rampal—Rural ..	49,827	.....	18'08	1'10	754	See pages 101 to 109 of this Report	..	..	..	See pages 101 to 109 of this Report.
Khulna ..	Morrigunge—Rural ..	62,670	.....	13'48	7'54	703	See pages 101 to 109 of this Report	..	..	..	See pages 101 to 109 of this Report.
Khulna ..	Kalaroa—Rural ..	81,395	.....	17'43	2'13	715	There are no drains. See also pages 101 to 109 of this Report.	..	..	..	Bamboo jungle exists. Conservancy nil. The dead are buried in homesteads and in some places cast into the river. See also pages 101 to 109 of this Report.
Khulna ..	Megum—Rural ..	48,212	.....	20'30	7'04	710	There are no drains. Hollows and excavations are common. See also pages 101 to 109 of this Report.	..	..	..	Surface cleansing is not observed. Conservancy nil. Thick jungle abounds. There are many hollows and excavations containing dried leaves and stagnant water. In some places the dead are cast into the river. See also pages 101 to 109 of this Report.
Khulna ..	Assasuni—Rural ..	62,412	70	15'76	7'01	741	There are no drains. See also pages 101 to 109 of this Report.	..	..	..	The houses have low floors in some places. Bamboo jungle abounds in some villages. Conservancy arrangements are absent. Defecation is carried on on river banks and everywhere. Internments take place in and near houses. See also pages 101 to 109 of this Report.
Khulna ..	Kalikunge—Rural ..	146,130	.....	15'23	1'53	713	See pages 101 to 109 of this Report	..	..	..	The houses are badly constructed, damp and devoid of ventilation. See also pages 101 to 109 of this Report.
Dinajpur ..	Dinajpur—Town ..	12,500	.....	14'57	7'71	320	The existing drainage is not satisfactory. There are dacca and kutcha drains which are not kept clean and their action is inefficient. They are deep, and faulty in outlets. There are numerous pits and hollows which are not drained. But a good drainage scheme has been sanctioned and will be soon taken in hand.	..	..	..	Surface cleansing is fairly attended to. The sweepings are generally removed outside the Municipality. A portion of the private privies is under municipal management. The rest are in bad condition. There are 11 public latrines in good order. The night-soil from these as well as the private privies is removed outside the town and buried. Premiseous defecation has been checked to a great extent. Foul water holes and excavations exist.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Rever.	Cholera.	Rowel-complaints.			
Dinaipur ..	Dinaipur—Baral ..	189,898	'03	23'15	'48	'10	Particulars regarding this thana are not yet available.		
Dinaipur ..	Boerungo—Baral ..	138,891	'08	27'34	'17	'33	Particulars regarding this thana are not yet available.		
Dinaipur ..	Thakurason—Baral ..	230,397	'01	28'13	'78	'18	Particulars regarding this thana are not yet available.		
Dinaipur ..	Ranikonail—Baral ..	75,108	.....	23'00	1'41	.....	See page 134 of this Report ..	See page 134 of this Report ..	See page 134 of this Report.
Dinaipur ..	Peergunge—Baral ..	93,880	'01	31'03	'10	'43	Particulars regarding this thana are not yet available.		
Dinaipur ..	Hemtabad—Baral ..	85,987	.....	19'38	'42	'15	Particulars regarding this thana are not yet available.		
Dinaipur ..	Nawabgunge—Baral ..	61,637	.....	20'42	'01	'30	Particulars regarding this thana are not yet available.		
Dinaipur ..	Kalipunge—Baral ..	94,882	.....	17'50	'33	'15	Particulars regarding this thana are not yet available.		
Dinaipur ..	Bandhibaree—Baral ..	81,877	'02	24'03	'17	'04	Particulars regarding this thana are not yet available.		
Dinaipur ..	Patritollah—Baral ..	69,233	.....	21'00	.....	'70	See page 134 of this Report ..	See page 134 of this Report ..	See page 134 of this Report.
Dinaipur ..	Mohadecapore—Baral ..	67,365	.....	17'39	'14	'10	Particulars regarding this thana are not yet available.		
Dinaipur ..	Pandha—Baral ..	48,486	.....	19'03	.....	'34	See page 134 of this Report ..	See page 134 of this Report ..	See page 134 of this Report.
Dinaipur ..	Patiram—Baral ..	76,681	.....	24'05	'06	'22	See page 134 of this Report ..	See page 134 of this Report ..	See page 134 of this Report.
Dinaipur ..	Gungarapore—Baral ..	74,491	'08	23'42	'49	'06	Particulars regarding this thana are not yet available.		
Dinaipur ..	Chanderson—Baral ..	82,058	'01	27'70	'09	'18	Particulars regarding this thana are not yet available.		
Dinaipur ..	Patritipore—Baral ..	66,708	.....	25'29	'13	'23	Particulars regarding this thana are not yet available.		

Rajshahye	Beaulah--Town	19,791	'20	28-47	'02	'78	<p>The drainager is unsatisfactory. The fall is good, but the drains are kutchia and difficult to keep in order. The refuse water from those house drains which are connected with the public drains stagnates in the former.</p> <p>Is taken from the river Pudma and from two tanks reserved for drinking and culinary purposes. There are many other tanks, but the water in the majority of them is unfit for any other use than the washing of utensils, &c. The river water is considered good.</p>	<p>Surface cleansing is not properly attended to. The sweepers, &c., are employed in filling up hollows and roads. The drains, but much of them are unremoved. The house fluid refuse are thrown about within the premises or into the public drains. There are only three public latrines. They are kept in a filthy condition, and more of them are required. There are about 103 private privies. Many of them are situated near ditches, drains, &c., and those of them which are under the Municipality are kept fairly indecent, but the rest are those private ones which are under municipal control. They are buried in deep trenches, but that from the rest are thrown into the jungle or any convenient place. Defecation is carried on on the fields and road-sides and in drains. Cattle are kept within the enclosures of houses, and their sheds are in bad condition. There are innumerable filthy pits, tanks, and water-holes.</p>
Rajshahye	Beaulah--Rural	81,098	.....	38-48	'25	'07	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>
Rajshahye	Nattore--Rural	153,602	'01	28-59	'03	'16	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>
Rajshahye	Lalpoore or Bilmara--Rural	84,062	'12	22-52	'06	'09	<p>Is taken from wells. Some villages get it from the silted up river Danja. See also page 135 of this Report.</p>	<p>The houses, although situated on raised floors, look damp. No conservancy. Defecation is carried on on the fields. The dead are buried in the compounds in the houses. See also page 135 of this Report.</p>
Rajshahye	Begmura--Rural	121,551	.. ..	22-21	'20	'05	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>
Rajshahye	Nougaon--Rural	85,340	.....	23-47	'01	'01	<p>Is taken from tanks and wells. The banks of the former are raised and the water pretty clean. In some villages the river Jamuna is resorted to, the water of which is polluted by fishermen placing branches of trees in it to catch fish. See also page 135 of this Report.</p>	<p>The houses are dry. See also page 135 of this Report.</p>
Rajshahye	Mandar--Rural	101,308	.....	21-19	'48	'01	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>
Rajshahye	Putia--Rural	121,238	.....	27-42	'27	'04	<p>Is taken from tanks and the river where one exists. See also page 135 of this Report.</p>	<p>The houses are dry, their floors being raised. See also page 135 of this Report.</p>
Rajshahye	Singra--Rural	112,607	'01	24-26	'08	'05	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>
Rajshahye	Borigram--Rural	121,554	.....	26-04	'48	.....	<p>Drainage is defective. See also page 135 of this Report.</p>	<p>The houses are not crowded together and the conservancy is free. They and their compounds are kept clean, the rubbish being deposited outside. Conservancy nil. Defecation is carried on on the fields. The dead are interred in the compounds of the houses. See also page 135 of this Report.</p>
Rajshahye	Charchat--Rural	134,160	'008	25-37	'33	'08	<p>See page 135 of this Report</p>	<p>See page 135 of this Report</p>

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—										
District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Population.	Drainage.			Domestic cleansing.
		Mortality.	Cholera.	Plague.	Small-pox.		Is chiefly taken from wells of which every house has a pucca or kutcha one, mostly the latter. These wells are properly protected contain good water, but the condition of the rest is bad and then water foul. There are some public wells protected and reserved for drinking purposes. There are a few tanks, but the soil of the town is not suited for tanks.	See page 135 of this Report	See page 135 of this Report	
Rajshahye	Godagari—Rural	43,759	18'88	09	11	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Rajshahye	Panchupore—Rural	79,434	14'71	24	06	See page 135 of this Report	Is taken from wells and river. See also page 135 of this Report.	See page 135 of this Report	See page 135 of this Report	Same as in Lalpore and Borigram. See also page 135 of this Report.
Rajshahye	Tanore—Rural	85,649	22'63	09	....	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bangalore	Rangpore, or Mahangunge—Torn.	13,330	27'02	90	25	See page 135 of this Report	Is chiefly taken from wells of which every house has a pucca or kutcha one, mostly the latter. These wells are properly protected contain good water, but the condition of the rest is bad and then water foul. There are some public wells protected and reserved for drinking purposes. There are a few tanks, but the soil of the town is not suited for tanks.	See page 135 of this Report	See page 135 of this Report	The conservancy arrangements are very unsatisfactory. Surface cleansing is imperfectly attended to for want of adequate establishment. House and kitchen refuse—solid and liquid—is thrown into the nearest convenient hollow or excavation. The condition of the cattle-sheds is extremely bad. There are only five public latrines and they are unprovided with drains and the floors of some of them are in bad condition. The privy latrines, excepting those which are under municipal management, are unprovided with receptacles for the feces and urine, and are consequently in a foul condition. A few well-privies still exist. The night-soil from the public latrines and from those latrines which are under municipal control is trenched in deep pits, but that from the rest, composing the majority, is either buried in proximity to them or thrown away. Profuse and offensive defecation is general. There are many foul pits and hollows. The arrangements connected with the disposal of the dead are unsatisfactory.
Bangalore	Mahangunge—Rural	116,210	42'33	4'39	37	See page 135 of this Report	Is taken from wells and tanks. Their water is said to be good, but bathing and washing are carried on around the former and refuse is thrown into, and defecation takes place on the banks of, the latter. See also page 135 of this Report.	See page 135 of this Report	See page 135 of this Report	The floors of the houses are leaped, but they are damp in many villages and so the people sleep on matthana. The houses are much crowded. Conservancy is absent. Rubbish is thrown near houses. The fields and the footpaths and roads are resorted to for defecation. The dead are buried near, or in houses, and dead cattle are left near them. See also page 135 of this Report.
Bangalore	Kaligunge or Phurumbari—Rural	155,667	25'04	1'33	25	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bangalore	Ullipore—Rural	216,213	26'84	4'27	19	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.

Bangalore	Sadulapore-Zawal	112,563	'08	28'03	7'35	'08	Drainage is defective. In some places the ground is undulating wing to dead rivers. See also page 135 of this Report.	Is taken from the river and wells. Their water is said to be good, but bathing and washing are carried on around the latter. See pages 134 and 135 of this Report.	The floors of the houses are damp. Their surroundings are filthy, rubbish sweepings, dung, &c., being thrown near them, and jungle abounds in them. The dead are buried within the houses, and dead cattle lie about. See also pages 134 and 135 of this Report.
Bangalore	Darwani-Zawal	143,390	'01	25'34	'55	'03	See page 135 of this Report	Is taken from the river and wells—both sources are polluted in the usual manner. Tanks also exist, but they are polluted by defecation on their banks. See also page 135 of this Report.	The houses are swept and kept, but the sweepings and refuse are thrown about them. The pathways are filthy. Conservancy is absent. Burials take place near houses, and dead cattle lie about them. See also page 135 of this Report.
Bangalore	Neabutunge-Zawal	124,567	...	27'01	'68	'03	Some of the villages are built on high ground. See also page 135 of this Report.	Is taken from shallow wells and the river which is also shallow in some places. Bathing and washing are carried out near the wells. See also page 135 of this Report.	In most villages the floor are leaped, but are damp and straw is therefore used for bedding. The rubbish is thrown near houses. Conservancy nil. The fields are resorted to for defecation. Corpses and carcases are buried near houses, in some villages within them. See also page 135 of this Report.
Bangalore	Jaldhacca-Zawal	163,673	...	24'13	1'14	'11	See page 135 of this Report	See page 135 of this Report	See page 35 of this Report.
Bangalore	Dimla-Zawal	138,763	...	22'23	'66	'14	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bangalore	Barbari-Zawal	142,512	'02	22'34	1'16	'19	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bangalore	Kawirunge-Zawal	88,619	'04	34'37	'89	'16	Very many villages are situated on low ground. See also page 135 of this Report.	Is taken from kutcha wells and tanks. See also page 136 of this Report.	Some of the houses are damp, ill-ventilated and crowded together. Refuse and rubbish abound near houses. Defecation is carried on near pathways, and dead cattle lie about near houses. See also page 135 of this Report.
Bangalore	Nageswari-Zawal	177,229	...	27'04	4'82	'32	Generally the villages are situated on higher ground than usual. See also page 135 of this Report.	Is taken from wells, bathing and washing are carried on near them and in some places they are resorted to by too many people, so that the water gets muddy. See also page 135 of this report.	In some villages bamboo clumps and trees impede ventilation and the houses are crowded with inmates at night. Conservancy is absent. The fields are resorted to for defecation. The footpaths and house surroundings are filthy. The dead are buried near houses and dead cattle are thrown anywhere. See also page 135 of this Report.
Bangalore	Mitsunker or Mangor-Zawal	99,033	...	27'66	'30	'45	Many of the villages are situated on pretty high ground. See also page 135 of this Report.	Is taken from rivers and wells. The water of both is said to be good, but bathing and washing are carried on around the latter. See also page 135 of this Report.	The house floors are swept, but are damp, and so machans are used for sleeping. Their surroundings are filthy. The dead are buried near houses and dead cattle lie about. See also page 135 of this Report.
Bangalore	Pirgunge-Zawal	69,003	...	30'46	'23	'07	See page 135 of this Report	As above. See also page 135 of this Report	Conservancy is absent. The house surroundings are filthy from refuse, dung, ashes, &c. The fields are resorted to for defecation. The dead are buried near houses, and dead cattle are thrown anywhere. See also page 135 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel complaint.			
Bungpore	Bhawankunge—Baral	57,903	....	21'34	12'92	'05	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bungpore	Sundergunge—Baral	91,469	.....	29'46	6'86	'16	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.
Bungpore	Govindgunge—Baral	189,627	'005	24'01	2'30	'11	The natural drainage in some places is good, —in others the ground is low, but the soil being sandy water is quickly absorbed. See also page 135 of this Report.	Is taken from rivers, tanks, wells. All the sources are polluted from the usual causes. Water in which jute has been specified is here and there drunk. See also page 135 of this Report.	The houses are dry. In some places jungle and mango grove abound. Unsanitary. The footpaths and house surroundings are filthy. The fields are resorted to for defecation. Generally the dead are buried near houses, or in the compounds near the sleeping rooms or even within the houses, or thrown into the river. Dead cattle are thrown anywhere. See also page 135 of this Report.
Bogra	Bogra—Town	6,179	.....	13'10	'49	3'07	Drainage is defective. Most of the drains are kutchas and empty into the river. They are defective in level; constructed without system; and blocked with rubbish and jungle; and are consequently difficult to keep in working order. There is an extensive piece of land in the west which becomes a swamp during the rains and retains water several months, causing dampness and consequent fever and dysentery.	Is taken from the river Korolya and from tanks and kutchas wells. The last cannot but be contaminated by the numerous well-privies in the town. The tanks are full of water plants, and are polluted by dropping leaves from overhanging branches of trees and by deposits of house sweepings on their tanks. The river receives the drainage of the town, and its water is muddy during the rains, and in the hot weather it becomes stagnant. Only one tank and three wells have been protected and reserved solely for drinking purposes. The water-supply is deficient during the hot weather.	The house refuse—solid and fluid—generally lies in pits and about the houses, little being deposited outside or removal by the conservancy carts. For want of carts, a good deal of the street sweepings, stable litter, &c., lie in heaps on waste land in the centre of the town, emitting a most offensive smell. There is only one public latrine. Well-privies are general. Night-soil is trenched from the public latrines, but that from the private privies where they exist is generally thrown into some convenient hollow or jungle. Promiscuous defecation is carried on to a great extent. The condition of the cattle-sheds is most filthy. There are several foul pits and water holes about the town.
Bogra	Sheriakandi—Baral Bogra Sobgunge	103,298	.....	20'23	4'59	'08	The country is low, and during the rains surrounded by water. There is no drainage. See also page 135 of this Report.	Is taken from wells and ponds. The latter contain, in many villages, rotting jute, and still their water is drunk. The water of the fields which are waste creep with rotting its cultivation is also drunk. See also page 135 of this Report.	The houses are mostly well scattered and not crowded. No conservancy. The refuse and cattle dung lie in heaps, festering in the compounds of houses. Defecation is carried on around the houses and on the fields. The people work in the ponds in which jute is steep, half their bodies being immersed in water, and the other half exposed to the burnings. The dead are buried in the compounds of houses and on the banks of the river, so that at flood tide the water runs over the places used as burial grounds, over even fresh graves. See also page 135 of this Report.
Bogra	Sherpore—Baral	47,463	.....	29'79	'34	'13	See page 135 of this Report	See page 135 of this Report	See page 135 of this Report.

Bogra	...	Pandibibi - Baral	...	68,794	...	24-23	74	...	See page 135 of this Report	...	...	...	See page 135 of this Report.
Bogra	...	Nowabganj - Baral	...	38,374	...	27-25	17	...	See page 135 of this Report	...	...	...	See page 135 of this Report.
Bogra	...	Adamdighi - Baral	...	94,634	...	18-23	118	...	See page 135 of this Report	...	...	...	The houses are mostly situated on high land, and are pretty dry and fairly ventilated. No conservancy; people use themselves on fields. See page 135 of this Report.
Bogra	...	Khetal - Baral	...	40,023	...	23-28	1-24	...	See page 135 of this Report	...	...	...	See page 135 of this Report.
Bogra	...	Dhannot - Baral	...	61,035	...	23-52	1-26	...	See page 135 of this Report	...	...	...	See page 135 of this Report.

Pabna	...	Sansajunge - Town	...	21,037	...	37-38	1-34	1-36	The natural drainage is good. The water freely recedes with the subsidence of the river, except from the pits and excavations, and it is said that it has therefore not been found necessary to supply the streets and houses with drains.	Is taken from 32 public wells (seven puca) and 3,000 private ones, and yet during eight months of the year river water is also used. The river was shallow and its water dirty, but since the mouth of the Katal was excavated good water is obtainable.	The conservancy arrangements are defective. The streets of the pucca only are swept, the sweepings being thrown into an excavation. The house refuse is thrown into ditches. Public latrines have been provided. There are no well-privies. The night-soil is removed from the privies daily and trodden, but the liquid sewage is allowed to soak into the ground or is accumulated in pits. The dead are generally buried in the compounds of houses, and sometimes within them. Steps have, however, been taken to stop this objectionable practice by providing public burial-grounds. The market is undrained and in a bad condition.	See page 135 of this Report.
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Pabna	...	Sansajunge - Baral	...	198,148	36-78	78	26	See page 135 of this Report	See page 135 of this Report.
Pabna	...	Pabna - Town	...	15,267	.....	19-73	6-37	1-36	The drainage is primitive and very defective. Excepting the bear drains, all the rest of the numerous drains in this town are kucha and deep. Most of them discharge into the Ichamutti river, the remainder into tanks. Some of them are obstructed, and the floods the water lies in the drains, and the deposited silt destroys their levels.	Is taken from tanks, the river Ichamutti, and wells. The tanks are filled in many ways: The river becomes stagnant during the hot weather, and is used for all purposes when flowing; and the many wells in the town are kucha, excepting a well in the kutchery and four wells recently constructed. The water of the kucha wells is generally impure. The kutchery well and the four public wells, which are now much resorted to, contain, as they are well constructed and protected from pollution, good potable water; but these wells are insufficient to meet the wants of the people. Some of the well-to-do people obtain their water, during the hot weather, from the river Ganges, in carts. As the Ichamutti is fast silting up, water difficulty is apprehended.	Surface cleansing is attended to, the sweepings being used to fill up excavations, but much of these remain unremoved. There is only one public latrine, so the people are compelled to resort to the ditches adjacent to their houses. Only a portion of the private privies are under municipal management. Well-privies exist. The night-soil is trodden, but in deep pits. Hindlers said, excavations, containing all kinds of refuse and stagnant, putrid water, are numerous. The fluid refuse from houses is not removed, but is thrown into pits or allowed to enter the drains. During the past year intramural interment was stopped. There are no slaughter-houses, and the arrangements under the head of disposal of the dead are unsatisfactory.	See page 135 of this Report.	
Pabna	...	Pabna - Baral	...	174,331	.....	27-84	3-09	17	See page 135 of this Report	...	...	...	See page 135 of this Report.

* The Magistrate notes that in sanitary conditions obtain throughout this district, such as contaminated and, often, foul-water-supply accumulations of filth and refuse near the houses, burial of the dead at an insufficient depth, and abundant rotting vegetation found in water, which pollutes the atmosphere.

			21-64	5-92	4-78	No special account of this thana is yet available; but see page 134 of this Report.	
Darjiling	Kurseong—Rural	...					
Darjiling	Kalimpong—Rural	...	10-09	61	3-62	Drainage is free, as there is hardly any level land. See also page 134 of this Report.	Is taken from springs which are open to pollution. See also page 134 of this Report.
Jalpaiguri	Jalpaiguri—Towns	...	10-19	37	3-52	The natural drainage is good, but is rendered abortive owing to want of levels in the drains which are all kutcha and cut in soil which is loose and to interference by pits, hollows, and excavations. Artificial drainage is very defective. The drains in front of shops are constructed by wooden structures.	Is taken from the river Teesta, but chiefly from wells, which are kutcha for the most part. The water of the Kuria river, which is also available is used for bathing and washing. Very few drink it. There are also three tanks. Defecation takes place on the banks of the Teesta, and fecal matter is cast into it by the people living near it. Only one of the tanks—the Rajbari tank—has been set aside for drinking, and, excepting a few which are puca, the condition of the wells is bad.
Jalpaiguri	Jalpaiguri—Rural	...	32-14	66	7-19	Drainage is defective. Water rises up to three feet below the surface of the ground during the rains. See also page 134 of this Report.	Is taken from kutcha wells. See also page 134 of this Report.
Jalpaiguri	Sitapur or Siliuguri—Rural	...	29-50	177	63	Drainage is defective. See also page 134 of this Report.	Is taken from kutcha wells, some of which are earthen pits. See also page 134 of this Report.
Jalpaiguri	Boda—Rural	...	34-14	45	7-07	Drainage is defective, but village Jagdah is fairly drained. See also page 134 of this Report.	Is taken from rivers and wells, the water of which is said to be good. See also page 134 of this Report.
Jalpaiguri	Patram—Rural	...	25-97	34	7-01	No special account is yet available regarding the villages in this thana; but see page 134 of this Report.	
Jalpaiguri	Mynaguri—Rural	...	38-15	2-08	7-06	No special account is yet available; but see page 134 of this Report.	Is taken from kutcha, shallow, very much polluted holes. See also page 884 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water supply.	Domestic cleansing.
			Small-pox.	Rever.	Cholera.	Bowel-complaints.			
Jalpaiguri	Alipur—Kurai	32,066	06	23.03	2.80	31	No special account is yet available regarding the villages in this thana; but see page 131 of this Report.		
Jalpaiguri	Keranti—Kurai	22,453	.....	29.27	3.46	73	No special account is yet available; but see page 134 of this Report.	Is taken from rivers. See also page 134 of this Report.	The house floors are damp. The rooms are crowded with inmates at night. Sweepings, dung, refuse, dead cattle, &c., lie near houses. Conservancy absent. The dead are buried outside the villages. See also page 134 of this Report.
Jalpaiguri	Dhepguria—Bakura, including Fakatia.	51,897	.....	33.91	12.66	43	No special account is yet available; but see page 134 of this Report.	Is taken from rivers and shallow wells. River water is highly polluted; but well-water is said to be good. See also page 134 of this Report.	The house floors are damp, and therefore people sleep on mats. The rooms are crowded with inmates at night. Trees abound. Refuse, &c., lie near houses or are kept in pits for manure at a little distance from the houses. The footpaths are not filthy. No conservancy. Defecation is carried on in fields. The dead are disposed of outside of villages. See also page 134 of this Report.
Dacca	Dacca—Tons	80,161	06	6.78	1.94	35	Drainage is very defective. The outlets are kept in tolerably good order, but the main and subsidiary, and the house drains are in a bad condition, encroached upon extensively, and are, in fact, in many instances, no better than elongated cess-pools. Several parts of the town have no drains.	This town possesses an excellent filtered water-work scheme, which however does not extend over the whole of it, a large portion having to depend on the river, kials, tanks, and wells. No tanks have been reserved for drinking water, and all of them almost are filthy, containing decaying vegetation. Only a few of the wells are fairly protected, the rest being contaminated by free infiltration of sewage. The river water is considered good, but it is polluted by the town sewage.	The conservancy arrangements are very unsatisfactory. The establishment and plant being inadequate to requirements. Surface cleansing is not fully attended to, the lanes being neglected. The fluid refuse from houses and kitchens is trenched, but a great deal of it is left within the premises. There are 15 public latrines, but they are not kept properly clean and are insufficient. There are four public urinals which are well kept and tarred. Most of the private privies are not properly constructed. Five thousand five hundred of them are under municipal management, and are cleaned generally every other day, and some after three, four or more days, till in fact their contents overflow. There are many well-privies, and extremely filthy bellows and tanks, more or less extensive, locally called "gun," still exist. The night-soil from the public latrines and from the private ones to which access can be had is trenched, but in deep pits. Promiscuous defecation is still carried out. Interments in compounds of houses and intramural burials still continue, but to a limited extent. Such grounds, however, are in a neglected condition. A new burial-ground is much wanted. The market is kept in a disgraceful condition, and the slaughtering of cattle is badly conducted.

Dacca	...	Lalbag or Keranigunge—Rural.	164,337	'02	14'94	5'88	1'15	Some of the villages are situated on elevated ground and some on low ground and are subject to inundation. See also pages 153 and 154 of this Report.	Is taken from nuddia, bhila, tanks and wells. See also pages 153 and 154 of this Report.	The houses are overcrowded and surrounded by trees and jungle. Deep excavations filled with water are to be met with. Conservancy nil. Defecation is carried on in fields. In some places there are makeshift privies under which the faeces accumulate. See also pages 153 and 154 of this Report.
Dacca	...	Narainigunge—Town...	12,561	'07	5'89	9'63	5'17	The drainage is fair. Most of the drains are kutcha, but they are kept in good order, though occasionally they silt up and are overgrown with grass. The condition of the house drains is generally bad.	Is taken from the Sital Lathya river, khalls, and three fairly protected reserved tanks. One of the latter, however, takes in inward drainage. The river water is much polluted by defecation on its banks. There are besides many private tanks, but they are little better than foul cess-pools overgrown with jungle.	The conservancy arrangements are not quite satisfactory. Surface cleansing is properly attended to, but fluid refuse from houses is in some places thrown into the nearest hole or ditch. There are eight of Hurdou's patent iron public latrines which are kept in fair order. Some of the private privies are situated close to houses and some are constructed over water-holes, but these are being altered gradually. Many of the private privies are cleaned by municipal mehters. Premious night-soil is trenching, but in deep pits. There are numerous pits and hollows about the town. The arrangements connected with markets and slaughter-houses are very objectionable.
Dacca	...	Narainigunge—Rural	91,189	.....	13'59	1'78	1'80	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.
Dacca	...	Manichigunge—Rural	184,196	'01	18'78	1'35	1'12	Some of the villages are situated on low lands. See also pages 153 and 154 of this Report.	Is taken from nuddia, bhila, and rivers. See also pages 153 and 154 of this Report.	The houses are well raised, but surrounded with deep trenches containing water with decomposing vegetation. The house floors are rather damp, and the compounds are strewn with refuse of all kinds, specially cowdung. No conservancy. The bustis are filthy. The dead are buried in the compounds of houses. See also pages 153 and 154 of this Report.
Dacca	...	Kapasia—Rural	119,515	'22	16'05	'39	1'31	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.
Dacca	...	Rupnigunge—Rural	164,159	.....	16'28	3'59	1'29	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.
Dacca	...	Munshigunge—Rural	243,443	'08	11'68	3'09	2'44	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.
Dacca	...	Srinagar—Rural	275,984	...	5'73	4'29	4'07	Drainage is defective. Excavations interfere with surface drainage. See also pages 153 and 154 of this Report.	Is taken from tanks which are foul, and dry up in the hot season. See also pages 153 and 154 of this Report.	The villages generally abound in trees, jungle and bamboo clumps, which obstruct air and sun. Deep excavations exist containing water with decaying vegetation. Although the compounds of the houses are kept clean, their surroundings are filthy with refuse, sweepings and decaying leaves. Conservancy nil. The dead are buried in compounds of houses. See also pages 153 and 154 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—					Population.	Drainage.			Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.							
Dacca	... .. Hariampur—Rural	...	23'31	4'55	40		100,009	Many villages are situated on high ground and are free from excavations, and consequently surface drainage is not interfered with. See also pages 153 and 154 of this Report.	Same as in Nawabganje, but it is also taken from wells the water of which is brackish. See also pages 153 and 154 of this Report.	Same as in Nawabganje, but the manner of housing cattle and disposing of cattle refuse is the same as in other thanas. See also pages 153 and 154 of this Report.		
Dacca	... .. Sabhur—Rural	.....	16'33	2'25	1'31		174,351	See pages 153 and 154 of this Report.	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.		
Dacca	... .. Raipura—Rural	004	10'33	1'24	35		202,738	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.		
Dacca	... .. Nawabganje—Rural	02	16'78	4'25	272		180,235	Some of the villages are situated on low lands. See also pages 153 and 154 of this Report.	Is taken from tanks and nuddis, but it is highly polluted, as their banks are generally used as latrines, and for burying the dead. See also pages 153 and 154 of this Report.	Some homesteads are well raised, but are surrounded by deep trenches containing water, and by trees, jungle and bamboo clumps. Many villages are very filthy, and holes and excavations are common. See also pages 153 and 154 of this Report.		
Dacca	... .. Jallerganga—Rural	.....	21'63	1'39	02		143,012	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.		
Faridpore*	... .. Faridpore—Town	.....	11'20	17'34	1'34		10,263	The natural drainage is good, but the hills and khals into which the water discharges and which serve the purposes of drains, have silted up and are non-effective. With two exceptions the drains are kutcha, and require constant attention. The culverts are insufficient. The village portion of the town is very badly drained.	Is taken from the river, khals and the Dhole Sumudra, but as these have silted up in parts, much difficulty is felt after the rains for water. A portion of the khal has, however, been converted into a tank by raising a dam on either side. Only five of the many tanks have been protected and their water is drinkable. The well water is fairly good.	Surface cleansing is attended to, but not satisfactorily. Only the principal roads are swept, and rank vegetation is not removed from the outlying villages. There are only two public latrines. Defecation is carried on everywhere. There are 180 private latrines in the town proper. Although they are under municipal management, most of them are cleaned on alternate days. The night-soil is trenched, but in deep pits, and the site of the trenching ground is objectionable, being near the school and on low ground, so that during the rains the night-soil has to be thrown into the river. Fluid refuse sinks into the ground, or percolates into the neighbouring water-reservoirs. In the village portion the dead are buried in the compounds of houses and also thrown into the river. Carcasses of animals are also treated in the latter manner.		
Faridpore	... .. Faridpore—Rural	.....	8'91	11'50	..		81,233	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.				
Faridpore	... .. Bhusma—Rural	.....	12'99	7'18	31		107,415	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.				
Faridpore	... .. Awanpore—Rural	.....	14'91	2'32	18		100,357	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.				

* For a general account of the Sanitary condition of the Villages in this District, see pages 153 and 154 of this Report.

Faridpore ...	Bhanga—Rural ...	164,389	'91	12'23	5'32	'94	See pages 153 and 154 of this Report ...	See pages 153 and 154 of this Report.
Faridpore ...	Mukundipore—Rural ...	156,633	'93	12'45	1'77	'13	See pages 153 and 154 of this Report ...	See pages 153 and 154 of this Report.
Faridpore ...	Kadarpore—Rural ...	165,917	'06	12'25	1'15	'25	See pages 153 and 154 of this Report ...	See pages 153 and 154 of this Report.
Faridpore ...	Kotalipara—Rural ...	66,153	'01	12'39	2'10	'86	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.	
Faridpore ...	Gopalgunge—Rural ...	85,341	.....	9'74	1'01	'33	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.	
Faridpore ...	Shibchar—Rural ...	116,043	'01	11'34	1'20	'20	See pages 153 and 154 of this Report ...	See pages 153 and 154 of this Report.
Faridpore ...	Palong—Rural ...	256,250	'03	10'12	2'38	'70	See pages 153 and 154 of this Report ...	See pages 153 and 154 of this Report.
Faridpore ...	Goalundo—Town ...		Data not available.				<p>The drainage is very defective; but no systematic drainage scheme is called for for this town owing to the encroachment of the river necessitating a periodical removal of its site. At present surface drainage is naturally effected through the Kati khal and other similar channels.</p> <p>Is taken from the river, tanks and the Railway cuttings. Four of the tanks have been protected and set apart for drinking purposes; and two almost unprotected wells are also used for this purpose. Water difficulty is felt in the parts of the town away from the river during the hot season when the Railway cuttings dry up.</p> <p>The conservancy arrangements are unsatisfactory. The establishment is inadequate to attend properly to the work. As far as possible, street sweepings, house refuse, &c., are removed to the chur in the river, and either burned or buried there. There are eight public latrines for males and two for females. They are faulty in construction and kept unclean. Private matters attend to the private latrines. Promiscuous defecation is largely practised. The nightsoil is buried close to the latrines during the dry season, and thrown into the river during the rains. Pits and excavations are numerous, the largest of them having been made by the Railway authorities.</p>	
Faridpore ...	Goalundo—Rural ...	166,650	'03	9'31	13'47	'33	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.	
Faridpore ...	Pangsha—Rural ...	150,366	...	8'34	2'09	'19	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.	
Faridpore ...	Baliakandi—Rural ...	66,069	...	22'02	14'03	'29	No special account of the sanitary condition of the villages in this thana is yet available; but see general account, which is applicable, on pages 153 and 154 of this Report.	
Backergunge ...	Burnisal—Town ...	13,186	.....	12'51	3'03	'83	<p>Drainage is on the whole defective, particularly in quarters furthest from the river. Most of the side-drains are connected with the tidal khals and are flushed daily and by this means kept clean and free from obstruction, excepting during the winter and hot months, when the house refuse, &c., usually thrown into them, obstruct them and destroy their level. The house drains require looking after.</p> <p>Is taken from tanks and khals, and is abundant. Two of the tanks have been protected and set apart for drinking. These tanks are resorted to by the Europeans and the well-to-do natives, not by others, who use khal water which is naturally much polluted, being connected with the tidal khals, which in their turn are connected with the town drains. The other numberless private tanks, most of which are also connected with the tidal khals, are not good; in fact many of them are mere sewage pools.</p> <p>The conservancy arrangements are defective, the establishment being insufficient for the requirements of the town. Surface cleansing is attended to, and house refuse removed, but not completely. The fluid refuse from houses remains within the premises. Middens and foul holes and excavations exist. Cattle are slaughtered near tanks and in fields, and the cattle sheds are filthy. There are only three public latrines which are not always in a clean state. The single public urinal is in a bad condition. The condition of the private privies is bad, although under municipal management. Several of them are unprovided with receptacles for the feces, &c., and the night soil from them is not regularly removed, pools of filth being accumulated in them. What nightsoil is removed, is not properly trenchered. The khals are used for defecation. The Mahomedan burial-ground is in a bad condition, and intramural interment is now and then allowed. The markets are not in a satisfactory condition.</p>	

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-com.			
Backergunge	Burisal—Bural	113,783	'08	31'35	'85	'21	See pages 146 and 151 of this Report	Is taken from small narrow khals, tanks and ponds. The khals become almost dry at ebb tide, their water is muddy, and cremation takes place on their banks, and carcases are thrown into them. The tanks and ponds are polluted in every way, and cremation and interment take place on their banks. See also pages 149 and 151 of this Report.	The habits of the people are very filthy. Houses as in Mendhigunge, but the floors of some of them are raised on plinths. Mode of treating sweepings and refuse, conservancy, defecation, same as in Mendhigunge. The cattle sheds are situated near sleeping rooms, and are damp and filthy; cowdung is collected in heaps near houses or in pits; jungle, abundance. Pits and hollows filled with vegetation and putrid water are numerous. The dead are buried in house compounds in some places. Dead cattle are thrown into the river and khals, and although they remain in them in a decomposed and putrid state, the people drink their water. See also pages 149 and 151 of this Report.
	Bowphal—Bural	93,188	'10	11'33	'61	'7	The sanitary condition of the villages in this thanah has not yet been ascertained.		
	Nalchitti—Town		Data not available.				See pages 151 and 153 of this Report	See pages 151 and 153 of this Report.	
Backergunge	Nalchitti—Bural	78,861	'05	27'67	'91	'37	Drainage is defective. The ground being low, the villages are always inundated. See also pages 149 and 151 of this Report.	Is taken from tanks which are numerous, but none have been reserved exclusively for drinking, and almost all are polluted in the usual way, and, in addition, by the existence of trees, and by interment and cremation taking place on their banks, and by defecation in them from overhanging branches of trees during the rainy season. See also pages 149 and 151 of this Report.	The habits of the people are filthy. Houses as in Mendhigunge, and, in addition, thick jungle abundance, and, to obviate the great dampness of the place, they are raised on plinths. The arrangements connected with conservancy, sweepings, refuse, and defecation, same as in Mendhigunge. There are numerous pools and ditches full of vegetation and stagnant water. The dead cattle are treated in the same way as in Barisal. See also pages 149 and 151 of this Report.
Backergunge	Persepore—Town		Data not available.				See page 151 of this Report	See page 15 of this Report	
Backergunge	Persepore—Bural	117,635	....	11'96	'98	'45	The sanitary condition of the villages in this thanah is not yet available.		
Backergunge	Jhalokati—Town		Data not available.				See page 152 of this Report	See page 153 of this Report.	
Backergunge	Jhalokati—Bural	143,416	'04	20'24	1'22	'16	Drainage is defective. The ground being low, it is always inundated. There are numerous khals, so much so that communication between houses is carried on by their means in boats or bamboo rafts, there being thus no necessity for roads.	Is taken from small narrow khals, which are numerous. The supply is bad and insufficient. In addition to the usual modes of defiling their water, carcases are cast into the khals, and people defecate into them from overhanging branches of trees, and bury their dead on their banks. See also pages 149 and 151 of this Report.	The habits of the people are filthy. Houses as in Mendhigunge and Nalchitti, but the cowsheds adjoin the sleeping-rooms in many places. Conservancy and mode of disposal of sweepings and refuse same as in Mendhigunge.
Backergunge	Bhandaria—Bural	73,353	.....	14'94	1'75	'98	Particulars regarding the sanitary condition of the villages in this thanah, are not yet available.		
Backergunge	Barmanady—Bural	89,061	'10	13'14	3'08	'46	Particulars regarding the sanitary condition of the villages in this thanah, are not yet available.		
Backergunge	Golachipa—Bural	59,037	.....	13'33	'69	'50	Particulars regarding the sanitary condition of the villages in this thanah, are not yet available.		

Backergunge	Gournadi - Rural	184,192	'07	15'32	2'06	'24	The village sites are not sufficiently high to prevent water lodgement. The cuttings, which serve for drains, and which are met with here and there, are generally obstructed and full of vegetation and putrid water. See also pages 149 and 151 of this Report.	Is taken from rivers, tanks and tidal khals, but all are subject to pollution, and corpses and carcases are thrown into them. The tanks are numerous, and their water is replenished during floods, but none of them have been reserved exclusively for drinking, and all are polluted in the usual manner, and, in addition, by cremation and interment being performed on their banks. See also pages 149 and 151 of this Report.	The habits of the people are filthy. The houses are fairly ventilated, but are surrounded by clumps of betelnut, cocconut, and other trees, preventing perfusion of air. The villages contain many excavations full of rank vegetation and putrid water. Jungle abounds. The houses and compounds are swept daily, but the sweepings and other refuse, as well as cordings, are collected in the backs of houses and sometimes in pits, and the kitchen refuse is thrown about to decompose. The sheds in which cattle are kept at night, are often situated in the back of the sleeping rooms. Conservancy pits. The banks of rivers, khals, and tanks and the jungle are resorted to for defecation, and it is customary for the people to bury and cremate their dead within the limits of their own lands. The dead cattle are treated in the same way as in Barisal. See also pages 149 and 151 of this Report.
Backergunge	Mendhigunge - Rural	144,711	'20	25'67	2'36	'15	Drainage is defective. The drains consist of small cuttings, and are full of vegetation and stagnant water. The villages are situated on low ground subject to inundation. See also pages 149 and 151 of this Report.	Is taken from khals and tanks. The water of the former is muddy, and in the hot months brackish, and carcases are thrown into them. The tanks are polluted in every way, have trees on their banks which are also the sites for cremation. See also pages 149 and 151 of this Report.	The habits of the people are very filthy. The houses are scattered, but surrounded by betelnut, cocconut, and other trees, precluding free perfusion of air; but they are fairly ventilated internally. The ground is damp; the ditches full of vegetation, the sweepings and refuse are kept in heaps outside of compounds or in excavations in the back of houses. The cattle-sheds are situated away from the houses, but they are filthy. No conservancy; defecation takes place in ditches, on banks of tanks, in the khals and jungles, and in any convenient place. Dead cattle are treated in the same way as in Barisal. See also pages 149 and 151 of this Report.
Backergunge	Backergunge - Rural	135,396	'03	19'20	'81	'54	See pages 149 and 151 of this Report	Is taken from rivers and tanks. The dead cattle are thrown into the former; and the latter are in bad condition, and cremation and interment take place on their banks. See also pages 149 and 151 of this Report.	The habits of the people are filthy. Houses as in Mendhigunge. Jungle abounds. 8 me. of the ditches contain vegetation and putrid water. Conservancy disposal of sweepings and refuse, and defecation same as in Mendhigunge, and dead cattle are treated in the same way as in Barisal. See also pages 149 and 151 of this Report.
Backergunge	Bhola - Rural	123,169	'06	11'37	1'25	'17	No account of the sanitary condition of the villages in this thanna is yet available.		
Backergunge	Patakhalli - Rural	173,901	'14	11'96	1'46	'46	No account of the sanitary condition of the villages in this thanna is yet available.		
Backergunge	Sharupkati - Rural	160,284	'01	17'30	1'71	'28	See pages 149 and 151 of this Report	See pages 149 and 151 of this Report	See pages 149 and 151 of this Report.
Backergunge	Gulishakhali - Rural	98,732	.....	11'19	3'80	'27	No account of the sanitary condition of the villages in this thanna is yet available.		
Backergunge	Matbaria - Rural	96,032	'04	10'40	2'24	'03	No account of the sanitary condition of the villages in this thanna is yet available.		
Mymensing	Jamalpur - Town	16,091	.....	16'34	1'30	5'15	The natural drainage is good. The fall is towards the rivers and belts. The drains are cleaned by a temporary establishment which is employed when necessary.	Is taken from the rivers Brahmaputra and Jhenai, private wells and tanks. In the rains the rivers change their course. The wells and tanks dry up.	Surface cleansing is not attended to. The refuse, garbage, &c. of private houses are accumulated in their compounds. There is one public latrine. No arrangements have been made for the disposal of night-soil. There are extensive jungles at Puntbaria. Carcases are thrown about within the Municipality.
Mymensing	Jamalpur - Rural	183,238	'20	11'33	'89	1'97	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.

* For a general account of the Sanitary condition of the Villages in this District, see pages 153 and 154 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Keer.	Cholera.	Bowel-complaints.			
Mymensing	Kishoreganje—Town	12,998	.....	8'45	9'61	33	Drainage is defective. The kutchha drains carry off only a portion of the water to the Narsunda river and the bhils.	Is taken from the river Narsunda, which, however, is reduced to a chain of pools in the cold weather. Even in the height of the rains it is choked with vegetation. The water of tanks, of which seven belong to the Municipality, is also utilised. The cleaning and deepening of the tanks is always attended to. Tanks reserved for drinking purposes only, and the excavation of the Narsunda are a great desiderata.	The sanitary condition of this town is bad. Surface cleansing is not properly and regularly attended to. What refuse and garbage are collected are employed in filling up pits. There are no public latrines. Melders are not locally procurable, so the people have their privies cleaned as best as they can, which means that they are generally in a filthy condition.
Mymensing	Kishoreganje—Rural	192,705	..	12'06	2'47	41	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report
Mymensing	Atia or Tangail—Rural.	442,119	'04	9'30	1'22	21	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report
Mymensing	Nasirabad—Town		Data not available.				The drainage is defective. The fall is away from the river; and the soil being alluvial, regular drainage is difficult. Almost all the drains are kutcha, and therefore demand constant attention. They are encroached upon. Levels have been taken for the improvement of the drains.	Although the river Bhagmati or Brahmaputra runs past the town, the people prefer to take their water from stagnant tanks. Some of the tanks are reserved for drinking purposes, but others are also used which are in a bad condition, being generally covered with vegetation during the hot season. The banks of the river all along the town, excluding the length of the civil station, are used for defecation. Private privies also line them.	Surface cleansing is not well looked after, much filth and other offensive matter being allowed to remain unremoved. Fluid house refuse is not properly disposed of. Cattle dung is accumulated till rotten for manure. There are four public latrines. There are no well-privies, but the latrines, both public and private, particularly the latter, require to be better attended to, and more of the former are required. Promiscuous defecation is general. The night-soil is treacherous, but not property. Pits and excavations are numerous. The arrangements connected with markets and slaughter-houses and disposal of the dead are unsatisfactory.
Mymensing	Kotwali or Mymensingh or Nussirabad—Rural.	232,846	'01	16'36	1'23	103	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Fulpara—Rural	114,467	.....	19'89	3'56	1'11	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Isvargunge—Rural	229,453	..	13'37	1'64	39	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Guffargaon—Rural	117,769	'03	14'02	1'13	23	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Sherpur—Rural	187,065	.....	9'03	2'86	1'21	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Dowanganj—Rural	101,373	'09	14'11	3'06	1'73	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Basitpara—Rural	200,233	.....	8'39	4'53	24	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.
Mymensing	Nickli or Amarsindho—Rural.	121,459	'16	14'26	2'09	59	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report ..	See pages 133 and 154 of this Report.

Mymensing	Pingua—Baral	76,363	01	24'05	2'03	1'39	The special account of the villages in this thanma is not yet available, but see pages 153 and 154 of this Report for a general account.
Mymensing	Gopalpur or Madhupore—Baral	217,796	01	13'36	1'53	47	The special account of the villages in this thanma is not yet available, but see pages 153 and 154 of this Report for a general account.
Mymensing	Netrakonah—Baral	471,658	01	9'55	3'13	35	See pages 153 and 154 of this Report.
Mymensing	Durgapore—Baral	116,467	.....	14'13	4'36	58	See pages 153 and 154 of this Report.
Tipperah	Comilla or Kotwali—Toson	13,506	.....	15'02	6'20	2'39	Drainage is very defective in some places in the native quarters; in other parts it is fair. The outfall is towards the Jaktora river which flows on the south and west of the town. The drains are both puca and kutcha.
Tipperah	Comilla or Kotwali—Baral	125,879	.....	12'46	3'45	06	Some of the villages are situated on high and some on low ground. See also pages 153 and 154 of this Report.
Tipperah	Brahmanberia—Toson	17,543	.....	12'08	11'03	2'85	The drainage is fair. There are a large number of main and cross drains which empty into the river which runs past, and into a khal which runs through the town. They appear to be provided with sufficient culverts and stone-ware pipes.
Tipperah	Brahmanberia—Baral	283,751	01	15'40	2'30	78	See pages 153 and 154 of this Report.
Tipperah	Nobinagar—Baral	175,971	.....	10'14	2'06	1'04	See pages 153 and 154 of this Report.
Tipperah	Chaudina or Barakampta—Baral	78,521	.....	13'71	1'32	42	See pages 153 and 154 of this Report.
Tipperah	Muradnagar or Thobal—Baral	132,322	.....	11'44	1'30	43	Drainage is defective. Many deep excavations exist, which obstruct free passage of water. Some villages have roads but without side drains. See also pages 153 and 154 of this Report.

* For a general account of the Sanitary condition of the Villages in this District, see pages 153 and 154 of this Report.

The conservancy arrangements are fair. Surface cleansing is properly looked after. Sweepers and refuse are employed in filling up gaps and ditches, of which there are many; but fluid refuse from houses is thrown into the nearest drain or ditch. There are only five public well-ordered latrines largely used by the people. The private latrines are cleaned daily by the municipal mehtas. There are no well-drains. Nightsoil is treasured, but in deep pits. Promiscuous defecation is common. Cess-pits are not permitted to be dug. There are several graves in and near the compounds of houses, and new ones are allowed under special circumstances. Slaughtering of cattle takes place in the premises of the butchers.

Generally the houses are dry and not crowded together. The house surroundings are as in other thanmas. No conservancy. The dead are cremated within the villages. See also pages 153 and 154 of this Report.

Surface cleansing is fairly looked after. There are only two public latrines, the nightsoil from which is buried in their vicinity. There are a large number of private privies which are not always in a clean condition, and the nightsoil from these is also buried close to them. Most of these structures are constructed over drains and hollows. Interment and cremation take place out of town.

See pages 153 and 154 of this Report.

See pages 153 and 154 of this Report.

See pages 153 and 154 of this Report.

The houses are built on raised ground and have dry floors. Many villages are full of jungle and trees. No conservancy. Some villages have privies, but the night-soil is not removed from them. Defecation is carried on in the jungles and beds. The dead are buried in compounds of houses. See also pages 153 and 154 of this Report.

SANTARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel complaint.			
Tipperah	Daudkandi—Baral	149,222	.....	11.70	9.10	'05	The villages are situated on low ground and the fields. Water scarcity is felt in some places during the hot season. See also pages 153 and 154 of this Report.	Is taken from tanks, bhils, muddis, and hollows in the fields. See also pages 153 and 154 of this Report.	The houses are built on raised floors, but some of them are damp. They are clean, but their compounds are filthy. No conservancy. No privies. Defecation takes place in fields and jungles. See also pages 153 and 154 of this Report.
Tipperah	Chandpore or Tubkiboga—Baral	112,084	'04	10.01	1.24	'39	The special account of the sanitary condition of the villages in this thanna is not yet available; but see pages 153 and 154 of this Report for a general account of them.		
Tipperah	Laksham—Baral	86,872	.....	11.35	'34	'19	The special account of the sanitary condition of the villages in this thanna is not yet available; but see pages 153 and 154 of this Report for a general account of them.		
Tipperah	Jagannathdih or Chowdagram—Baral	103,318	.....	14.54	'02	'48	See pages 153 and 154 of this Report.	See pages 153 and 154 of this Report.	
Tipperah	Kasba—Baral	114,143	.....	14.49	1.03	'06	See pages 153 and 154 of this Report.	See pages 153 and 154 of this Report.	
Tipperah	Hazigunge—Baral	179,347	'01	8.27	'95	'15	The special account of the sanitary condition of the villages in this thanna is not available; but see pages 153 and 154 of this Report for a general account of them.		
Chittagong	Chittagong—Town	22,130	.....	13.00	'13	'02	The drainage is naturally good, but it has been much neglected. The drainage of the lower levels of the town is bad owing to local obstructions. Several of the drains are full of silt and jungle; the pucca drains in the hazard are choked with many places are merely elongated cess-pools. The localities along the Chittagong nulls are getting swampy.	Is taken from tanks and wells, one of the former of which is to be found in every house, and most of which are in bad condition. Water is also taken from springs, and is said to be unrivalled, but the springs are neglected. A large tank; 6 wells and 11 springs have been reserved for drinking purposes.	The sanitary condition of this town is very bad. The conservancy arrangements are inadequate and badly carried out. The whole town is a vast public latrine, all the hollows, holes, and tanks reeking with filth. The innumerable small bustis of which the town is composed, are enclosed in a dense jungle which permits of the commission of nuisance and of the lodgment of filth of all description. There are 12 public latrines, but their condition is as bad as possible. The private latrines are not under municipal management. They consist generally of mat enclosures over the nullahs, the water of which receives a great deal of the fecal matter. The wealthier classes employ mowhars, but the night-soil is buried in the nearest waste land. The night-soil from the public latrines is trampled in the jail garden. The arrangements under the head of disposal of the dead, markets and slaughter-houses are objectionable.
Chittagong	Chittagong—Baral	53,022	.....	9.07	.....	'28			
	Bangor	144,390	.....	10.75	.....	'31			
	Mirsal	76,799	'01	14.66	.....	'37			
	Pada	180,448	.....	11.42	.....	'27			
	Ernathalli	101,758	.....	11.27	'09	'45			
	Sathanya	147,515	.....	7.60	'02	'06			
	Kathanya	81,590	.....	11.35	.....	'01			
	Fatikcheri	104,500	.....	13.01	'14	'24			
	Kumura	58,011	.....	9.28	.....	'71			
	Cox's Bazar	62,917	.....	13.38	.....	'46			

The account of the sanitary condition of the villages in the Chittagong district cannot be furnished, as the officers of the Vaccination Department, whose duty it is to furnish the information, have not visited these villages owing to Vaccination not having yet been introduced into them.

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				SANTARE ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
			Small-pox.	Fever.	Cholera.	Bowel-complaints.	Drainage.	Water-supply.	Domestic cleansing.
			.....	14 20	1 07	38			
Noakhalli	Begunungo—Rural	128,983	.....	14 20	1 07	38	Same as in Sudharam	Same as in Sudharam	Same as in Sudharam.
Noakhalli	Lakhipur—Rural	113,351	01	16 48	36	31	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report	See pages 153 and 154 of this Report.
Noakhali	Bangung—Rural	80,723	.....	13 98	1 39	26	See pages 153 and 154 of this Report	Is taken from tanks. See also pages 153 and 154 of this Report.	Villages are situated on very low ground and are full of betel-nut and coconut trees and tanks. The dead are buried on the banks of old and unused tanks. See pages 153 and 154 of this Report.
	Patna—Town	104,337	01	12 75	6 76	56	Drainage is very defective. Excepting a few, all the drains consist of shallow excavations with insufficient outlets. They are also obstructed generally throughout by rubbish and dried up sludge which impound the house sewage causing it to disappear partly by evaporation and partly by infiltration, and necessitating the having of pucca cess-pools within the premises, or in the adjoining lanes, containing putrid water from premises, &c.	Is taken from the river and wells. There are 50 municipal and numerous private wells. The former and several of the latter are well protected. Most of the private wells are kuttas and although the water of some of them has been condemned it is generally believed to be wholesome. But this can hardly be the case, as surface detention is general, and the wells are situated in proximity to well-privies.	Surface cleansing is insufficiently attended to, the establishment being inadequate. The principal streets are swept daily and the lanes on alternate days. The sweeps are employed in lining up hollows. The cat-trenches are in a very filthy condition, the cattle standing deep in mire. There are nine public latrines and several of Ramsay's portable latrines. There are 11,000 private privies in the City Proper of which 4,000 are well-privies. The remainder are under the management of the Municipality. The public latrines are insufficient. Those who do not resort to them, or have no private privies, defecate in waste-places, &c., and some use bits of gum-laths or tiles. The night-soil and liquid sewage are trenched in distant places. The trenching grounds are cultivated, but they are insufficient. There is no slaughter-house. The arrangements for the disposal of the dead are unsatisfactory. There are a large number of private burial-grounds many of which are crowded, and two burning ghats which are used only during the rains.
Patna	Behar—Town	46,971	24	6 08	57	1 31	Drainage is very defective. The street and house drains want proper width, levels, fall, and outlets. See also page 109 of this Report.	Is taken chiefly from wells, and at times it is insufficient. See also page 159 of this Report.	The conservancy arrangements are very unsatisfactory. Surface cleansing is insufficiently attended to. There are five public latrines, but owing to the people preferring the fields they are not resorted to, the people preferring the fields and waste places. There are about 1,400 well-privies. The ordinary private privies are not regularly cleaned. The arrangements for the disposal of the dead are defective. See also page 159 of this Report.
Patna	Barh Town	23,610	04	11 36	1 32	6 39	There is no regular drainage system. The main streets have pucca side-drains, but they are not properly attended to. See also page 159 of this Report.	Is taken from the Ganges, and some of the people use well water. See also page 159 of this Report.	The conservancy arrangements have been placed under the management of a contractor. Surface cleansing is not properly attended to; and the sweeps, &c., are thrown wherever the contractor thinks proper. There are 12 public latrines two of which are inaccessible. The night-soil is trenched. Private burial grounds exist. The Hindu dead are sometimes cast into the river, and the pauper dead are not cared for. There are no markets or slaughter-houses. See also page 159 of this Report.

Patna	Dinapur-Town ...	65,225	8-09	9-26	2-69	Particulars regarding the sanitary condition of this town are not yet available.
Patna	Mokamah-Town ...	Data not available.					Particulars regarding the sanitary condition of this town are not yet available.
Patna	Patna-Bural ...	27,674	10-76	1-48	4-33	See pages 154 to 157 of this Report.
	Behar ...	233,312	.....	14-58	1-48	1-33
	Barh ...	170,589	.....	18-19	1-38	1-33
	Dinapur ...	15,387	.....	20-09	4-41	6-88
	Mokamah ...	91,924	.....	16-17	1-33	4-36
	Patna ...	88,051	.....	12-85	1-04	1-49
	Monair ...	98,516	.....	15-94	1-33	8-91
	Ataerai ...	91,477	.....	20-91	2-33	1-07
	Saboo ...	97,001	.....	16-37	1-09	2-32
	Hankipore ...	120,613	.....	14-91	1-40	1-08
	Masouri ...	180,982	.....	17-52	1-89	1-28
	Bikram ...	178,075	.....	15-15	3-57	1-70
	Hilaa ...		.....	14-38	1-44	1-36
Gya	Gya-Bural ...	215,393	25-50	2-62	1-18	Particulars regarding the sanitary condition of the villages in the Gya district are not at present available, as the Officer of the Vaccination Department whose duty it is to furnish the information, have not yet visited them.
	Daudnagar ...	64,296	.....	19-74	1-80	1-39
	Pachri ...	391,713	.....	16-33	1-50	1-33
	Arwal ...	110,435	.....	16-98	1-73	1-50
	Rajali ...	98,046	.....	18-13	1-59	1-26
	Salarghuti ...	98,775	.....	14-33	1-76	1-26
	Atari ...	169,319	.....	23-07	1-87	1-19
	Jehanabad ...	78,516	.....	15-70	1-58	1-03
	Tikari ...	274,754	.....	17-50	3-76	1-29
	Barachitti ...	170,865	.....	20-47	4-35	1-26
	Arangabad ...	98,311	.....	19-33	1-83	1-29
		243,429	.....	19-54	3-28	1-08
Gya	Gya-Town ...	76,121	18-87	9-41	5-50	Is chiefly taken from pucca wells. Six of them have been protected, but well water cannot be wholesome, as there is infiltration into them of foul water from many houses and a large number of privies. There are tanks also, but they are not in proper order and their water is not drunk. Many of the inhabitants of the old town take their supply from the river bed which receives the drainage of the town, and is fouled by defecation and burial in it of the pauper dead and carcases.
Gya	Daudnagar-Town ...	9,370	21-12	7-0	4-0	Is taken from wells, of which there are very many. Some of them are pucca, and they afford an abundant and wholesome supply, but many of the others are polluted. The water of the canal, which is within easy reach of some parts of the town, is not much used.

For a general account of the Sanitary condition of the Villages in this District, see pages 154 and 155 of this Report.

The conservancy arrangements are unsatisfactory. Surface cleansing is attended to, and the public latrines (24 in number) are kept in fair order; but the private ones are in an objectionable condition from not being cleaned for days together, and promiscuous defecation is very general. There are ten public urinals, but they are situated in localities where they are not required. The nightsoil is trampled in the fields of private individuals for which Rs. 10 to Rs. 15 per bigga is charged. There are numberless pits and excavations. The dead are cremated on the bed of the river.

The houses are crowded together, surface cleansing and the cleaning of the drains are attended to; but on the whole, the conservancy arrangements are unsatisfactory. The sweepings are utilized in filling up ditches. There are no public latrines, and no arrangements have been made for the disposal of nightsoil from the private privies. The house drains are in an offensive condition. The ditch around the town is the receptacle of all kinds of filth, rubbish and offensive matter, and is consequently a source of unhealthiness.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Shahabad	Arrah—Town	43,065	'02	'64	'41	'27	Drainage is defective. All the drains are kutchas, deficient in level, and not properly looked after. They are, moreover, much encroached upon and blocked in many places.	Is taken almost entirely from the numerous wells all over the town. There are also nine tanks set apart for drinking purposes, but the people do not resort to them for this purpose, but use them for bathing. The wells are polluted, and their water is very impure. The tanks are replenished with canal water whenever necessary.	The conservancy arrangements are, on the whole, fair. Surface cleansing and the disposal of fluid refuse from houses are properly attended to. There are five public latrines which are kept in good order. The private privies consist of both surface and well-privies, the latter being very numerous, and the former kept in a fairly offensive condition. The nightsoil is properly trenched. There are many filthy holes and excavations about the town, but they are being filled up. The arrangements under the heads of disposal of the dead, markets and slaughter-houses call for better attention.
Shahabad	Arrah—Rural	281,437	'10	19'40	3'45	'54	Drainage is defective. The roads serve the purpose of drains. During the rains, water stands on the roads till it evaporates. See also pages 154 to 157 of this Report.	The river supplies the drinking water, but which it is drawn; and for this purpose wells, kutchas and not protected from pollution, are also resorted to. See pages 154 to 157 of this Report.	The houses are crowded together, preventing perfusion of air and the crowding of inmates within the houses at night is general. No conservancy, and no surface cleansing. The liquid refuse soaks into the ground or finds its way to the roads, and the solid portion is thrown here and there. There are no public latrines, and the private ones consist of sundresses or well-privies, but the people in general defecate wherever most convenient to them. The fluid refuse from the cowshed, which are near the houses, soaks into the ground or finds its way to the roads, and the solid portion is thrown on the roads or dried for fuel. There are pits and hollows containing decomposing vegetation. See also pages 154 to 157 of this Report.
Shahabad	Sasaram—Town		Data not available.				See pages 157 and 158 of this Report.	See pages 157 and 158 of this Report.	See pages 157 and 158 of this Report.
Shahabad	Sasaram—Rural	155,780	'05	30'39	'88	'47	Drainage is defective. The natural drainage is bad and is much obstructed by the canal embankment on the north. See also pages 154 to 157 of this Report.	Is taken from wells and tanks. The former are provided with pumps, but their surroundings are filthy. The latter are unprotected. See also pages 154 to 157 of this Report.	The soil is porous and absorbs moisture. Some of the villages are situated on high ground. Filthy habits in the rule with the people. The house floors and courtyards are swept, but the surroundings of the houses are very filthy. The sweepings are collected in heaps till wanted for manuring the poppy fields. The cow-dung is used as fuel, but during the rainy season the waters accumulate there and there. Defecation is promiscuous. Tanning of hides is carried on within some villages. See also pages 154 to 157 of this Report.
Shahabad	Karher or Nokha—Rural.	104,647	'01	42'56	3'40	'21	See pages 154 to 157 of this Report.	See pages 154 to 157 of this Report.	See pages 154 to 157 of this Report.
Shahabad	Belouti—Rural	196,879	'04	20'36	1'90	'08	Drainage is very defective. The surface water finds no exit, and there are deep excavations full of foul water. See also pages 154 to 157 of this Report.	Wells supply the water for all purposes. They are mostly kutchas, and as bathing and washing of clothes, &c., are carried on near them, they are very foul. See also pages 154 to 157 of this Report.	The houses are crowded together and defective in ventilation. Overcrowding of inmates in them at night is general. The house surroundings are very filthy. There are no conservancy arrangements. Calls of nature are obeyed wherever most convenient to the people. Refuse is collected in heaps. See also pages 154 to 157 of this Report.

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small pox.	Fever.	Cholera.	Bowditch-com.			
Shahabad ..	Dehri—Bazal ..	76,894	'38	33.34	2.19	'21	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report.
Shahabad ..	Dhungain—Bazal ..	179,916	'05	35.45	5.10	'23	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report.
Shahabad ..	Jagdishpur—Toons ..	Data not available.					See pages 153 and 159 of this Report	See pages 153 and 159 of this Report	See pages 153 and 159 of this Report.
Shahabad ..	Mohanis or Ramghur—Bazal.	150,413	'03	37.64	2.85	'25	Most of the villages are situated on high ground. Their soil is porous and easily absorbs moisture, but the retentive power is not great. Stagnation of water takes place in some of them and in some near which the irrigation canal runs, the drainage is insufficient owing to the syphon tubes of the canal being unequal to carry off the water. In some places a channel has been taken in the direction of the drainage. See also pages 154 to 157 of this Report.	Same as in Bhunbuh. See also pages 154 to 157 of this Report.	See pages 154 to 157 of this Report.
Shahabad ..	Peero—Bazal ..	179,492	'01	21.76	7.13	'15	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report	See pages 154 to 157 of this Report.
Muzaffarpore ..	Muzaffarpore—Toons ..	42,742	'39	11.95	5.24	3.97	There is no system of drainage. The soil is sandy and ill-drained. The site of the town slopes towards the rice fields to which the side drains should carry off the surface water, but the outlets and drains generally have been choked up and obstructed, and are defective in level. A scheme of drainage has, however, been sanctioned for the town.	Is taken from wells, and the river Gundak, and the drainage of the private houses. Their water is, however, not used for drinking purposes, and well water is most preferred, notwithstanding that it is generally brackish. There is only one municipal well, but many of the private wells have been protected by parapets from pollution, but soakage around the wells is general.	The conservancy arrangements are defective. Surface cleansing is well looked after, but the fluid refuse from houses is allowed to collect in cess-pools from which it is removed and thrown only at a little distance from the houses. The sweepings and refuse are employed by the Municipality and private people in filling up hollows. There are 11 public latrines, but their condition is very bad. There are many private privies, generally pucca. They also are in a bad state. Promiscuous defecation is very general. The night-soil is trampled, but in deep pits. The trenching grounds are cultivated. The cattle-sheds are very filthy, and many foul pits and water-holes are to be seen all over the town. The arrangements under the heads of disposal of the dead, markets, and slaughter-houses need more attention.
Muzaffarpore ..	Hajipur—Toons ..	25,005	'23	6.30	4.73	5.87	Drainage is said to be satisfactory; the streets having been provided with side-drains, pucca and kutcha.	Is taken from the river, wells, and tanks. The quality of the water is believed to be particularly good.	Surface cleansing is looked after; private houses scavenging is not quite satisfactory. There is a Cumbie seated moveable latrine, but more are much required. Well-privies exist in private houses. There is no trenching ground for night-soil, but it is buried in ditches at some distance from habitations. There are 106 burial-places within the town.
Muzaffarpore ..	Sitamarhi—Toons ..	6,125	1.14	17.14	.46	3.42	Information has not been furnished	Is taken mostly from wells. River water is also used for drinking, but by a few.	The street sweepings and carcases are removed. There are three public latrines. The roads are kutcha.

Mozafferpore	Lalunge-Town	16,763	.....	14/24	'96	4/05	Drainage is said to be satisfactory. The town is intersected by numerous water channels and embanked by several roads. The drains discharge into several tanks.	Is taken from numerous wells	... ..	This town is composed of a closely-packed bazar with outlying villages in the north and south. Many of the houses are substantially built. Surface cleansing is looked after, the refuse and garbage being removed to a distance from the town and buried, and the sweeping are utilised in filling up hollows and ditches. There are no public latrines.
Mozafferpore	Mozafferpore—Kural Sitamahi, Belund and Belamochpakun- ia—Kural .. Kara .. Puro and Budra— Kural .. Lalunge—Kural .. Mahwa—Kural .. Hajipur and Mahuar —Kural .. Poopree (Joley)—Kural .. Shewhur—Kural ..	500,596 463,137 187,340 288,967 127,079 310,444 244,580 222,516 146,116	'03 '09 '04 '15 '05 '02 '05 '04 '06	7/31 9/87 5/00 8/52 14/19 11/23 10/73 6/31 9/80	'49 '49 '23 '62 2/17 1/02 '62 '99 '66	'40 '19 '37 2/08 1/23 '32 '50 '14 '10	Particulars regarding the sanitary condition of the villages in the Mozafferpore district are not at present available, as the Officers of the Vaccination Department, whose duty it is to furnish the information, have not yet visited them, as vaccination has not yet been introduced into them.			
Durbhanga	Durbhanga—Town	66,066	'16	11/15	'45	4/98	The drainage is very defective. The drains are deficient in level and non-effective from obstruction and earth taken out of them. Hollows and excavations abound, into which the drainage finds its way. During the rains the whole town becomes consequently water-logged.	Is taken from the river Bhagmati and from numerous wells, of which 8 are public and protected from pollution. There are also 4 reserved, good and large tanks for drinking, and 8 for bathing purposes, and a large number of extremely filthy ones. The banks of the river are fouled by defecation.		Surface cleansing is fairly well attended to, and the sweep- ers employed in filling up hollows and excavations. The fluid refuse is thrown into ditches. There are 25 public latrines. Most of them contain accommoda- tion for females, and they are, on the whole, in a filthy condition and are insufficient. Much defecation of the ground by defecation is carried on. There are a very large number of private latrines, but they are not kept clean. The nightsoil is trenched, but not the whole, and the plan of trenching is unobjectionable. The arrangements for the disposal of the dead are unsatisfactory. There are a large number of private burial-grounds which urgently require to be closed. The market has no latrine, but has a filthy urinal.
Durbhanga	Durbhanga—Kural Jalsingra .. Tajpore .. Narabasti .. Khasowli .. Phoolpura .. Madhubani .. Bosera .. Banera .. Beniputi ..	837,435 279,504 366,493 169,946 181,540 270,431 211,772 266,606 399,875 273,748	'01 '03 '32 '05 '08 '09 '01 '16	6/86 14/91 7/56 13/49 13/23 10/20 8/03 10/81 4/18 13/16	'41 '23 '71 '63 1/14 1/79 '43 '23 '39 '87	'12 '17 '02 1/49 '53 4/37 1/53 '28 '37 '15	Particulars regarding the sanitary condition of the villages in the Durbhanga district are not yet available, as the Officers of the Vaccination Department, whose duty it is to furnish the information, have not yet visited them, as vaccination has not yet been introduced into them.			
Sarun	Chupra—Town	53,249	'05	5/29	1/72	3/15	The drainage is extremely defective. In fact this town is considered the most badly drained one in Bengal. It is so low-lying that proper drainage is difficult, but a scheme of providing the town with saucer-drains is about to be undertaken. The exist- ing drains are rendered non-effective by being blocked and built over, the consequence being that stagnant water is collected in pools all over the town to the detriment of health.	Is taken from wells and the river, and from three of the largest tanks which are guarded from pollution. The well water is said to be good and plentiful; but it cannot be good on the whole, as the mouths of many of the wells are flush with the ground surface, and their surroundings are filthy and sludgy.		Surface cleansing is attended to, and the sweepings are sold as manure. Some of the cattle sheds are filthy. There are 11 ordinary latrines and 11 movable iron ones. They are kept clean, but more of them are required. There are nine public urinals in fair order. There are many private latrines, but they are for the most part unclean. Promiscuous defecation is largely carried on. The night soil from the public and private latrines is trenched, but that from one of the latrines is stored in a shed mixed with dry earth for sale as manure.

* The Magistrate Mr. Clay says that "in Sarun, as in other districts, village sanitation is unknown, but owing to the dense population the nuisance, caused by the disregard of the simplest conservancy measures, is much more serious in Sarun than in less populous tracts. If only the people would copy the old Israelites and go out to the fields for necessary purposes with a 'puddle to their shovel' the atmosphere in the neighbourhood of towns and large villages would be greatly improved."

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Population.	Drainage.	Water-supply.	Domestic cleansing.
		Small-pox.	Fever.	Cholera.	Bowel-complaints.				
Sarun	Sewan—Towns	15	13.24	3.33	5.93	13,307	Drainage does not appear to be good. There are three main drains, the outfall of which is into the river Dalla. They are kept clean by coolies.	Is taken from wells, the water of which is admitted to be good.	Surface cleansing is looked after, and the sweepings, &c., utilised in filling up ditches. There is one ordinary public latrine and 21 movable ones. The nightsoil from the public and private latrines is deposited in the municipal dumps, and thence carried away to a plot of land situated at a distance from the town and there treacher. The private latrines are not always in a clean condition.
							The drainage is extremely defective. There are pucca and kutcha drains. They lead to the Gogra river and into the Jirna nalla. They are cleaned, when required, by extra coolies.	The water-supply is taken from wells, of which 6 belong to the Municipality. The well water is said to be excellent and sufficient.	Surface cleansing is looked after. The street sweepings and refuse are thrown out of town into ditches. There are no public latrines. The nightsoil from the private latrines is placed in dumps established by the Municipality, and thence carried to and thrown on waste land at a distance from the inhabited parts of the town. Both the Civil Surgeon and the Magistrate condemn the conservancy and sanitary arrangements of this town.
Sarun	Bevilunge—Towns	32	11.12	5.76	4.72	12,463			
Sarun	Chupra—Rural	04	9.97	1.14	4.25	190,955			
	Sewan	10	7.02	31	74	302,061			
	Gopalgunj	01	7.16	2.28	39	260,385			
	Manchi	06	11.56	1.14	1.21	149,722			
	Buragon	03	8.30	07	1.29	284,641			
	Dighwara	02	4.88	1.05	3.21	120,231			
	Parsa	02	5.80	07	04	259,072			
	Mazraha	02	2.76	07	06	220,802			
	Basunipore	04	8.55	09	06	211,476			
	Darwall	08	17.15	1.44	08	222,613			
Chumnapur	Bettiah—Towns	70	22.62	04	04	21,263	The drainage appears to be fair. Most of the main streets have been provided with pucca drains which work efficiently. Encroachments and obstructions are prohibited. It is, however, customary here to clear out the drains annually before the rains set in, so that at other times they remain obstructed and filthy.	Is taken from 200 wells, 2 tanks and the river Chundrawati. The wells are, with a few exceptions, very shallow and imperfectly protected and contain impure water. The river is gradually salting up.	Surface cleansing is attended to, but imperfectly. The surroundings of some of the houses are filthy. There is a large number of hollows and excavations of various dimensions. An experimental latrine was established last year, but it proved a failure, as but few of the people resorted to it. There are 1,100 private latrines. They are kept in fair order, and the nightsoil from them is buried in four trenching grounds outside the town, but in deep pits. Promiscuous defecation is very general.
Chumnapur	Motihari—Towns	Data not available.					The drainage is yet defective, notwithstanding several improvements which have recently been made. The drains are much built over, and are generally blocked. The condition of the house drains is in most instances bad.	Is taken from tanks, wells and a lake. Two tanks have been recently excavated calculated to supply good water. The lake is resorted to for bathing and washing purposes; seldom for drinking. There are 8 municipal and 100 private wells set apart for drinking water. Many of them dry up in the hot weather, and several of the private ones are imperfectly protected.	The conservancy arrangements are very defective. Surface cleansing is very imperfectly attended to. The surroundings of the houses are very filthy. There are no public latrines, but it is proposed to provide a few. The private latrines, out of which there are many, have been properly constructed, and they are, with few exceptions, kept fairly clean. Promiscuous defecation is very largely carried on owing to the want of public latrines. The nightsoil from the private latrines is treasured, but in deep pits. Filthy pits and water holes abound. The arrangements connected with the disposal of the dead, markets, and slaughter-houses are not quite satisfactory.

Particulars regarding the sanitary condition of the villages in the Sarun district are not yet available, as the Officers of Vaccination Department, whose duty it is to furnish the information, have not yet visited the villages, as vaccination has not yet been introduced into them.

Chumpanun	Bettiah—Bural Motihari and Begowlie e—Bural. Gobindgrange—Bural Baguba and Mudna- bui—Bural Dhakka—Bural Kauriah Adapure Lowrya Mudrabun	349,979 176,748 165,658 140,900 283,592 177,682 138,986 191,917 108,686	1-22 1-22 34 22 32 74 2-32 42 11	19-58 13-04 7-68 19-69 15-80 11-59 17-16 23-50 11-02	1-54 1-03 2-5 1-13 4-9 4-1 1-17 4-4 3-2	1-08 2-23 4-13 1-17 1-08 1-09 1-17 1-14 1-38	Particulars regarding the sanitary condition of the villages in the Chumpanun district, are not yet available, as, although vaccination has been introduced into a great part of it, the plan of operations followed in the Behar Circle this year did not embrace it, and the villages were not consequently visited by the Officers of the Vaccination Department.
Monghyr	Monghyr—Town	57,520	1-17	13-60	1-44	4-30	The drainage is very defective. The drains are faulty in construction, choked with rubbish, built over in many places and quite non-effective. In fact the whole surface drainage of the town evaporates in sludgy pools and private drains. The latter are also in very bad condition.
Monghyr	Monghyr—Bural	81,736	2-23	26-64	4-43	1-13	The general drainage of rain water is effected more or less completely in some villages. There are no sub-drains generally. The soil of most of the villages being sandy and the ground unequal in level and containing many excavations, there is no effective drainage in them. See also page 147 of this Report.
Monghyr	Jamalpur—Town	13,533	.....	14-22	1-47	6-16	The drainage is very defective. Several of the drains are blocked, built over and out of repair, and consequently non-effective.
Monghyr	Jamalpur—Bural	6,891	.....	14-63	4-79	.....	The information for this thana is not yet available.
Monghyr	Shaktipura—Town	12,517	.....	23-63	.....	2-23	Is taken from springs and wells. The former drain from the adjacent hills and bring with it human excreta and all descriptions of filth. The latter are for the most part kutcha and unprotected, and their water is filthy and insufficient.

The conservancy arrangements are not quite satisfactory. Surface cleansing is not properly attended to, and the fluid house refuse is not removed. There are 45 public latrines, but more are required. They are kept in fair order. There are five urinals. The private privies of which there is a large number, are kept in a very bad state. The night-soil is properly trenched and the trenching grounds are well cultivated. Promiscuous defecation is still carried on to a considerable extent. Improvement is indicated under the heads of disposal of the dead and markets and slaughter-houses.

The people are generally dirty in habits. The Brahmins are an exception to this rule. Some of the houses are sufficiently separated one from another to secure per- fect ventilation and are damp. Refuse and cowdung are kept near the houses, where they lie for months till required for manuring purposes. Private latrines, where they exist, are in many cases composed of well-privies. The surface privies are cleaned at intervals of days. Defecation takes place in the pathways, near houses, on waste lands, and in jungles. See also page 147 of this Report.

The conservancy arrangements are not quite satisfactory. Surface cleansing is well attended to, and the fluid house and kitchen refuse is disposed of in the trenching grounds. The condition of some of the cattle sheds is not satisfactory. There are 13 ordinary and two move- able latrines which are kept clean, but are not generally appreciated. Only 48 of the 3,364 houses in the town have private privies, the rest are attended to by European quarter of the town only are attended to by the municipal engineers; the rest are cleaned by private mehters. The night-soil is properly trenched, and two of the trenching grounds cultivated. Pits and exca- vations, turned to cess-pools, are numerous and are still being multiplied. The arrangements connected with the disposal of the dead are very unsatisfactory.

Conservancy entirely absent. The houses are over- crowded and extremely filthy, there being no means of removing the refuse and sewage, which are accumu- lated in their backyards. There are well-privies in many houses which are never cleaned.

SANTARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-count.			
Monghyr ...	Shaktipura including Lakhiserai— <i>Rural</i> .	186,903	'04	20-07	'29	'35	See page 147 of this Report	Is taken from wells which are polluted in various ways. The supply is deficient. See also page 147 of this Report.	The houses are ill-ventilated and crowded with inmates at night. The people are filthy in habits. The compounds and backs of houses are covered with rubbish, and crowding houses are to be met with in a fermenting condition. Defecation is carried on everywhere. See also page 147 of this Report.
Monghyr ...	Suraipur including Burriarpur— <i>Rural</i> .	166,263	'11	18-12	'30	'02	The drainage of rain-water is effected more or less completely in some villages. In others the soil being sandy, the ground unequal in level, and containing many excavations, there is no effective drainage. There are no side-drains generally. See also page 147 of this Report.	Wells supply the water for drinking and other purposes. In most places they are puca and protected by parapets and platforms, but some wells dry up. Where there are tanks and the river, their water is used. Many of the former contain stinking water. See also page 147 of this Report.	The people, Brahmins excepted, are generally dirty in habits. Some of the houses are sufficiently separated one from another to secure perfusion of air, others not; but most of them are defective in internal ventilation. Refuse and cowdung are deposited near the houses till they are required for manuring purposes. Private privies, where they exist, are in many cases composed of well-privies. The private privies are cleaned at intervals of days. Defecation takes place in the pathways, behind and near houses, on waste lands, and in jungles. See also page 147 of this Report.
Monghyr ...	Gauri including Khagria— <i>Rural</i> .	365,934	'09	21-37	'30	'12	The drainage of rain water is effected more or less completely in some villages. In others the soil being sandy, the ground unequal in level and containing many excavations, there is no effective drainage. There are no side-drains generally. See also page 147 of this Report.	Wells supply the water for drinking and other purposes. In most places they are puca and protected by parapets and platforms. Where there are tanks, their water is utilised. On the whole the water is not above suspicion. See also page 147 of this Report.	The inhabitants, Brahmins excepted, are generally filthy in habits. Some of the houses are sufficiently separated one from another to secure perfusion of air, others not; but most of them are defective in internal ventilation. Tiled houses are to be met with. Refuse and cowdung are deposited near the houses till they are required for manuring purposes. Private privies, where they exist, are in many cases composed of well-privies, and the surface ones are cleaned at intervals of days. Defecation takes place in the pathways, between houses, on waste lands, or in jungles. See also page 147 of this Report.
Monghyr ...	Kharakpur— <i>Rural</i> .	143,079	'04	25-19	'03	'05	See page 147 of this Report.	See page 147 of this Report.	See page 147 of this Report.
Monghyr ...	Teghra— <i>Rural</i> .	203,639	'12	29-37	'40	'31	The drainage is defective. The soil being sandy, the ground surface unequal in level, and excavations existing, there is no effective drainage. See also page 147 of this Report.	Wells supply the drinking water. In some places they are puca and surrounded by parapets. There are tanks also in some villages. On the whole the water is not above suspicion. See also page 147 of this Report.	The houses are ill-ventilated and crowded together and damp. House refuse and cowdung are collected near them and not removed till the field manuring season comes on. Private latrines, where they exist, are in many cases composed of well-privies. The surface privies are cleaned at intervals of a few days. Defecation takes place on the pathways, near houses, on waste lands, and in jungles. See also page 147 of this Report.
Monghyr ...	Begusarai— <i>Rural</i> .	376,794	'21	20-29	'35	'15	The drainage of rain water is effected more or less completely in some of the villages. In others the soil being sandy, the ground unequal in level and containing many excavations, there is no effective drainage. There are no side-drains generally. See also page 147 of this Report.	Wells supply the water for drinking and other purposes. In most places they are puca and protected by parapets and platforms. Where there are tanks, their water is utilised. On the whole the water, whether of wells or tanks, is not above suspicion. See also page 147 of this Report.	The inhabitants, excepting the Brahmins, are generally filthy in habits. Some of the houses are sufficiently separated one from another to secure perfusion of air, but most of them are defective in internal ventilation. Refuse and cowdung are deposited near them till they are required for manuring purposes. Private privies, where they exist, are in most cases composed of well-

Monghyr ...	Sekundra in Begusarai—Burai.	122,389	'01	22'71	'07	'08	Drainage is defective. The roads have no drains. See also page 147 of this Report.	Is taken from unprotected kutcha wells, which are used for all purposes. See also page 147 of this Report.	The houses are crowded together, ill-ventilated and crowded with inmates at night. The people are filthy in habits. Rubbish, cowdung, and ashes are heaped up near houses. The pathways are filthy. See also page 147 of this Report.	prives and the surface ones are cleaned at intervals of days. Defecation takes place in the pathways between the houses, on waste lands, or in jungles. See also page 147 of this Report.
Monghyr ...	Jamui—Burai	120,563	'06	21'73	'45	'17	Information regarding this thana is not yet available.			
Monghyr ...	Chakye including Burharwa—Burai.	109,540	'07	20'94	'39	'22	See page 147 of this Report.	See page 147 of this Report.	The people are unmindful of personal cleanliness, but the sweepings and house refuse, although accumulated in the courtyards, are burnt at intervals. See also page 147 of this Report.	
Bhagulpore ...	Bhagulpore—Town ...	57,453	" ...	12'31	4'57	4'29	The natural drainage is good, except in the low parts. The drains are kept in good order, but they are deep and obstructed in some instances. Almost all the house-drains empty into vats within the premises, the contents of which are removed by the municipal mehtars.	Is taken at present from the river and wells. There are six municipal and many private wells, but the quality of the water is not good. There are four tanks for domestic purposes. A filtered water-supply scheme is being carried out, and will shortly be brought to completion.	The conservancy arrangements generally are fair. Surface cleansing is attended to, but the streets and lanes are swept only once a week. Many excavations exist. There are 105 public latrines, 3 of corrugated iron, 33 of masonry and 67 of mats. They are kept in fair order. The private latrines in two wards are under municipal management; the rest are attended to by private mehtars. The night-soil is trenched, but in rather deep pits. A part of one of the trenching grounds is under cultivation. There are innumerable pits and hollows with rotting vegetation in them all over the town. No arrangements exist for the disposal of the cholera and infectious disease dead.	
Bhagulpore ...	Kotwali or Bhagulpore—Burai.	100,579	.....	23'57	'40	'35	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	
Bhagulpore ...	Colgong—Burai	102,237	.....	127'45	'27	'89	Drainage is defective. Excavations are numerous. See also pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	The houses are ill-ventilated, crowded together, and overcrowded as regards inmates. The villages are unclean. Refuse is accumulated till required for manure. No conservancy. Nuisances are committed every where. See also pages 147 and 148 of this Report.	
Bhagulpore ...	Banks—Burai	134,227	.....	22'33	'03	£'15	Drainage is defective. Rain water collects and causes dampness. See also pages 147 and 148 of this Report.	Is taken from wells, tanks and the river where it exists. When the river is dry, clear water is obtained by digging into its bed. The sides of some tanks have been raised to prevent surface drainage, but their water is polluted by bathing. See also pages 147 and 148 of this Report.	The houses are crowded together and their surroundings are filthy. Refuse and crowding are accumulated near houses. The dead are thrown into streams. See also pages 147 and 148 of this Report.	
Bhagulpore ...	Mudhpura—Burai	202,678	'07	20'30	'03	'18	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	
Bhagulpore ...	Kishengunge—Burai	135,338	'08	27'06	'06	'12	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	
Bhagulpore ...	Sultaungunge—Burai..	98,427	.....	19'75	'18	1'74	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	See pages 147 and 148 of this Report.	

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Bhagulpore	Bihpore— <i>Rural</i>	98,403	.....	30.55	14	140	Information for this thana is not yet available.		
Bhagulpore	Soopole— <i>Rural</i>	259,042	01	19.74	14	15	Information for this thana is not yet available.		
Bhagulpore	Partabganje— <i>Rural</i>	153,372	.....	20.90	16	70	Information for this thana is not yet available.		
Bhagulpore	Bungson— <i>Rural</i>	148,566	04	18.05	23	23	Information for this thana is not yet available.		
Bhagulpore	Umerpore— <i>Rural</i>	265,519	01	18.13	6	38	Drainage is defective. See also pages 147 and 148 of this Report.	Is bad and polluted. See also pages 147 and 148 of this Report.	Conservancy absent, and houses insufficient and badly ventilated. See also pages 147 and 148 of this Report.
Bhagulpore	Kotareah— <i>Rural</i>	77,644	03	20.39	02	16	Information for this thana is not yet available.		
Purneah	Purneah— <i>Town</i>	15,015	26	23.24	73	306	The drainage is defective. Almost all the drains are kutcha, and the soil being sandy, the drains are quickly formed which with weeds obstruct the drainage channels. Fishing weirs also promote obstruction.	Is taken almost exclusively from wells and from the river Sonra by those who live near it. There are tanks also, but they are in bad condition, being overgrown with vegetation. Of the wells, the four belonging to the Municipality and four to Government have been protected and reserved exclusively for drinking purposes. The private wells are innumerable, about every holding having one. They are more or less protected from pollution, and are used for all purposes.	The conservancy arrangements are very unsatisfactory. Surface cleansing is not properly attended to, and much rubbish remains undisposed of. There are 10 public latrines which are kept in good order. There are many private latrines. They are ill-constructed. The night-soil of the public latrines is trampled near them; but that from the private ones is thrown into jungles outside the town. There are innumerable pits and excavations. The arrangements connected with the disposal of the dead are unsatisfactory.
Purneah	Purneah— <i>Rural</i>	138,704	007	17.41	10	17	Information for this thana is not yet available.		
Purneah	Kuba Amour— <i>Rural</i>	124,889	01	20.74	48	008	Some villages are on high, and some on low ground. The latter are liable to inundation. See page 134 of this Report.	Is taken from rivers and wells. The former are promiscuously used and their banks resorted to for defecation. Some of the latter get dry during the hot weather; some are deep; and some have raised mouths. See also page 134 of this Report.	The houses are crowded together and ill-ventilated. Some have dry floors, others are damp, necessitating sleeping on machans. No conservancy. Sweepings and refuse are thrown near houses, and cow-dung is heaped in front of them. The cattle are kept in the compound. Defecation is carried on in the nearest fields, and in some places on the footpaths, which are also otherwise filthy. The dead are thrown into the river, and dead cattle near houses in many places. See also page 134 of this Report.
Purneah	Damdaha— <i>Rural</i>	109,391	.....	13.78	124	01	See page 134 of this Report	See page 134 of this Report	See page 134 of this Report.
Purneah	Gondwana and Carra-gola— <i>Rural</i>	125,945	...	15.75	60	04	See page 134 of this Report	See page 134 of this Report	See page 134 of this Report.

Purneah ...	Arariah—Zawal ...	200,612	'03	18-80	5'86	'09	Some of the villages are situated on high ground, and are not inundated. See also page 134 of this Report.	Is taken from pucca and kutcha wells, which are polluted in every way. In some places river water is used, but bathing, washing, and the steeping of hides are carried on in them, and their banks are used as latrines. See also page 134 of this Report.	Same as in Kusba Amour, but in some villages the foot-paths are not used as latrines, and the dead are thrown in "dhars." See also page 134 of this Report.
Purneah ...	Matiari—Zawal ...	94,115	.....	22-00	2'06	'15	As in Kusba Amour ...	As in Kusba Amour ...	As in Kusba Amour.
Purneah ...	Ranigunge—Zawal ...	107,533	.....	22-52	'42	'08	As in Kusba Amour. Some of the villages are water-logged throughout the year.	As in Kusba Amour. The water of some of the pucca wells is good.	As in Kusba Amour; but the dead are cremated on banks of tanks.
Purneah ...	Kiseenganj—Zawal ...	158,100	'08	22-03	2'08	'11	See page 134 of this Report ...	See page 134 of this Report ...	See page 134 of this Report.
Purneah ...	Bahadurganj—Zawal ...	186,142	.....	11'86	'90	'05	As in Kusba Amour ...	As in Kusba Amour ...	As in Kusba Amour, but in some villages cattle dung and refuse are removed to places distant from the villages, and the dead are buried on the banks of tanks.
Purneah ...	Kaliaanj—Zawal ...	277,059	'07	20'85	'58	'16	See page 134 of this Report ...	See page 134 of this Report ...	See page 134 of this Report.
Purneah ...	Kodwa and Saifgunge—Zawal ...	134,275	'08	19'84	'20	'01	Drainage is defective. There being no side-drains, water accumulates here and there. See also page 134 of this Report ...	Is taken from kutcha wells, open to every description of pollution. See also page 134 of this Report.	The house floors are in most cases damp. Sweepings are thrown close to, and crowding heaped in front of, houses. The nearest fields are resorted to for defecation. See also page 134 of this Report.
Purneah ...	Balrampur—Zawal ...	115,031	.....	20'70	'19	'13	See page 134 of this Report ...	See page 134 of this Report ...	See page 134 of this Report.
Purneah ...	Manihari—Zawal ...	54,466	.....	15'75	'27	.....	See page 134 of this Report ...	See page 134 of this Report ...	See page 134 of this Report.
Maddah*	English Bazar—Town	19,430	.....	7'32	'08	'08	Drainage is defective. There are several pucca and kutcha drains. Some of the former are badly constructed, and deficient in level, without proper fall and obstructed with rubbish so that their contents stagnate and decompose. The kutcha drains are also deficient in level and obstructed. Almost all the drains lead to tanks, ponds, pools and deep ditches in thickly populated localities, and discharge their contents into them during the rains.	Is taken from the river and more or less filthy tanks which are protected and into which river water is let during floods through the pucca drains. The private tanks are generally situated near-house drains, well-privies, middens, &c. The wells are mostly unprotected, receive inward drainage and are used for all purposes. The river water becomes filthy and muddy during the dry and rainy seasons respectively. The water of one of the wells is good.	Surface cleansing is not completely attended to, only the main streets being swept to daily and the lanes, &c., once a week. The fluid refuse of private houses run into the municipal drains to dry up or decompose. There are 30 public latrines, but on account of the extremely filthy condition in which they are kept they are not much used, the people preferring to defecate elsewhere and when they do go to them they often squat outside and the filth lies about 19 dry, or to decompose or to be removed at the fancy of the milder. The night-soil when removed from the public latrines is trenched near them, and that from the private ones is thrown in any convenient place. The town is full of filthy pits and offensive tanks. The Mahomedans bury their dead in mango groves or in their house compounds. Some of the very poor low castes cast their dead into the river.
Maddah ...	English Bazar and Bholahat—Zawal.	72,615	.....	12'50	'02	.....	See page 134 of this Report ...	See page 134 of this Report ...	See page 134 of this Report.

* The general report regarding this district is as follows:—There is no drainage system and no conservancy. Defecation is promiscuous, including on banks of rivers, the fecal matter being eaten by dogs, pigs and cows. No village can be said to possess a supply of pure drinking water; those on the banks of rivers being better off, but even the river is contaminated in many ways. The tanks receive surface drainage with organic impurities; the bills dry up during the hot weather when their water is insufficient in quantity and worse in quality.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—									
District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Keyer.	Cholera.	Bowel-com-plaints.			
Maldah	Old Maldah—Town	.....	Data not available	.....	.....	.....	Drainage is very defective. The long low ridges between corresponding high strips of land, which form a distinguishing feature of this town, are the principal outlets of drainage. In the places where the levels have been interfered with by the taking of earth water collects and forms foul cess-pools.	Is taken from the river Mahananda, the Dabha tanks which are flushed annually by river water are used for miscellaneous purposes. There are several protected wells which are used solely for drinking, and the rest of the wells are in a more or less satisfactory condition. Some of the private tanks are very objectionable.	The conservancy arrangements are very unsatisfactory: strictly speaking there are none. Babbar, &c., lie unmoved, street sweepings are thrown into the nearest convenient corner or unoccupied site. Cattle dung is stored in the compound of houses. There are no public latrines. About half of the people have private privies which are so constructed as to discharge their contents into the big natural drains where they remain till removed by natural forces. Promiscuous defecation prevails to a large extent. There are many deep hollows. The arrangements relating to the disposal of the dead are very unsatisfactory.
Maldah	Maldah—Rural	50,894	.....	17'53	'11	'03	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Gazole—Rural	54,317	.....	21'55	'03	'01	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Ratna or Gargoria—Rural	80,024	.....	18'38	'39	'08	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Kharba—Rural	103,051	.....	15'44	'13	.....	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Gomastapur—Rural	52,810	.....	15'53	'01	'03	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Kaliachuck—Rural	115,893	'008	11'22	'22	'02	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Shibgunge—Rural	102,162	'009	11'45	'09	.....	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Maldah	Nawabgunge—Rural	66,453	.....	11'42	'13	'10	See page 134 of this Report.	See page 134 of this Report.	See page 134 of this Report.
Sonthal maha.	Deoghur—Town	8,005	'49	12'36	5'74	1'74	Natural drainage is excellent. The drains are well looked after; but some of them are insufficient in capacity.	Is taken from tanks, wells, and a hill-stream. One tank has been set apart for drinking purposes, and some of the wells contain pure and wholesome water. The water-supply is deficient in quantity for the requirements of the town.	Most part of the houses are brick-built, but they are crowded together and ill-ventilated. The conservancy arrangements are fair. Surface cleansing is attended to, and the sweepings and rubbish properly disposed of. Many pits and excavations exist. There is only one public latrine, but it is not used owing to its condition being bad. The state of the private latrines is also bad. Promiscuous defecation is largely carried on. The night-soil is removed beyond municipal limits and thrown away.

Sonthal Pergunnah.	Deoghur and Jantara (Madhupur and Sarai)— <i>Esra</i> .	389,665	005	15-28	27	18	See page 148 of this Report.	Is taken from wells, and is said to be good. See also page 143 of this Report.	See page 148 of this Report.
Sonthal Pergunnah.	Dumka— <i>Esra</i> .	363,188	002	8-31	10	101	See page 148 of this Report.	See page 148 of this Report.	See page 148 of this Report.
Sonthal Pergunnah.	Rajmahal (Sahabgunge Burea)— <i>Esra</i> .	253,825	24	6-31	01	23	Drainage is defective and obstructed in parts. The ground being unequal in level, impedes free surface drainage of rain water, which consequently accumulates, and, by sub-soil seepage, renders the soil damp. See also page 148 of this Report.	Drinking water is taken from tanks which are also used for bathing and other purposes. Some of them are well protected, but many are filthy. In some villages there are excavations, or small tanks, containing foul and unwholesome water caused by decomposing vegetation and surface drainage, which are the only sources of water for drinking and domestic purposes. Where a river runs, its water is drunk, but it is polluted by bathing and washing cattle, and defecation on the river banks. See also page 148 of this Report.	The houses are mostly crowded, which precludes free perflation of air. There are pits behind the houses in which sewage is deposited and decomposes. Sheep, pigs and goats are located in the bed-rooms. Refuse and cowdung are accumulated near the houses and never removed except for manure. Many villages abound in jungle. Defecation is carried on in bamboo groves, jungles, or in the outskirts of the villages. See also page 148 of this Report.
Sonthal Pergunnah.	Sahabgunge— <i>Esra</i> .	Data not available.					The drainage is satisfactory. There are both pucca and kutcha drains, which are maintained in good order.	Is obtained from the river Ganges, tanks and wells. The municipal tank is in a bad condition, and the clothes, cattle, &c., are washed in it, and the numerous private tanks are generally filthy. Sixteen of the wells have been protected and reserved for drinking purposes, but they dry up in the hot weather, not being sufficiently deep.	The conservancy arrangements are not quite satisfactory. Surface cleansing and the disposal of house and kitchen refuse are properly attended to. There are three latrines for the general public, and two have been provided by the Railway authorities. They, as well as the private privies, are in a satisfactory state, but unnecessary defecation is still carried on. The night-soil is thrown into hollows at the foot of the hills. There are many pits and water-holes about the town.
Sonthal Pergunnah.	Pakour (Madhupur)— <i>Esra</i> .	204,919	05	11-31	18	140	Drainage is defective. There are pits and excavations, and the ground surface is unequal in level. See also page 148 of this Report.	Is generally taken from tanks, the water of which is unwholesome, as it is polluted in several ways. Some villages obtain their water from wells and some from rivulets. Well-water is said to be good. See also page 148 of this Report.	The houses are substantially built, and, although situated on raised ground, are damp. They are ill-ventilated and crowded together, and refuse is accumulated near them till required for manure. No conservancy. Defecation takes place on the pathways and other places. On the whole the villages inhabited by the Sonthals are not so filthy as the others. See also page 148 of this Report.
Sonthal Pergunnah.	Godda (Mohagawa and Podalya)— <i>Esra</i> .	348,463	01	13-14	06	13	The natural drainage is good, as the land is high. But as there are excavations and the pathways are not supplied with drains and are not properly levelled, the drainage is impeded. Where the land is low, water accumulates. See also page 148 of this Report.	Is taken from wells, some of which are pucca and some protected from pollution. Their water is considered good. Where a river exists, its water is used, but dead bodies are thrown into it. In a few places, the water is had by digging into the bed of the river, and this water is good and clear. See also page 148 of this Report.	The soil is sandy and absorbs and retains much moisture. The houses are mostly crowded, preventing free perflation of air. Jungle abounds in some of the villages. House refuse and cowdung are allowed to accumulate in the court-yards of, and near the houses. In some cases the cattle are located in the sleeping-rooms. Defecation is carried on, on the fields or waste lands, in jungles at the outskirts of the villages, even on the pathways. The Sonthals usually keep the bones of their dead in their houses until an opportunity offers to consign them to the Damuda river. See also page 148 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleaning.
			Small-pox.	Fever.	Cholera.	Howel-complaints.			
Cuttack*	Cuttack—Towns	43,239	'04	5'83	1'15	1'13	Drainage is on the whole fair, excepting that when the Kutiuri river is in flood the discharge of the main drainage, which empties into the river, is stopped, and the town drainage is headed back. The house-drains are generally filthy.	Drinking water is taken almost exclusively from wells, tank and river water being used for bathing and washing of clothes, &c. The water-supply runs short in certain localities when the river runs very low. Most of the tanks are in a filthy state; but the wells, which are very numerous, almost every holding having one, are more or less protected from pollution.	The conservancy arrangements are in several respects very objectionable. Surface cleansing is properly done, and the sweepings, &c., are utilized in filling up holes and excavations. The house and kitchen fluid refuse is, however, disposed of somewhere within the premises. The condition of the cattle-sheds is generally bad. There are 23 public latrines for males and 13 for females. They are kept clean; but more of these structures are required. There are 8 public urinals which are in fair order. The condition of the private privies is bad. Premisuous defecation is very largely carried on. The night-soil from all the public privies and several of the private ones is trenched in deep circular pits, but that from the remaining private privies is either buried in the sandy clur on the river Mahamuddi or thrown away in some ob-cure place. The arrangements under the heads of disposal of the dead and markets and slaughter-houses are on the whole fair.
Cuttack	Cuttack—Rural	155,335	'10	4'92	2'73	2'11	The sites of the villages differ, some being on high, some on fairly high, and some on low ground. See also page 160 of this Report.	Is taken from rivers, streams, tanks and wells. Its quality is good generally, but in very many places it is highly polluted. See also page 160 of this Report.	In some villages the houses are damp and defective in ventilation. Others again are sufficiently separated one from another to admit of ventilation. In some places there is no system of conservancy anywhere, but the habits of the people are generally clean. The sweepings and refuse, although removed from within the premises, are allowed to accumulate outside. In very many places the cowsheds are situated too close to the houses, and crowding is met in heaps close to them. See also page 160 of this Report.
Cuttack	Jajpore Town	11,233	.....	7'74	5'73	4'36	There is no systematic drainage. The drains discharge into the river. Their condition is said to be good, but as there is no regular establishment to look after them, excepting annually by hired coolies, they can hardly be in efficient working order at all times.	Is taken from wells and the river. The supply is said to be good excepting during the rains, 10 of the wells, some of which are public, belonging to the Municipality.	Surface cleansing is partially attended to. The principal streets are swept daily; the lanes occasionally. The sweepings and garbage are employed in filling up holes and depressions. There are no public latrines. Defecation is carried on in the bed of the river, jungles and on waste lands in and near houses. There are no well-privies. The dead are interred in the compounds of houses and in the banks of the river.
Cuttack	Angul—Towns	.....	Data not available.				See page 162 of this Report.	See page 162 of this Report.	See page 162 of this Report.
Cuttack	Jajpore—Rural	239,503	'07	6'10	3'66	1'29	See page 160 of this Report.	See page 160 of this Report.	See page 160 of this Report.

* The Magistrate reports that the people of this district are very backward in matters of sanitation. They are wedded to habits which are not conducive to general cleanliness in their villages, and will not readily give them up.

Cutback	...	Kendrapara—Towns	15,037	'38	8'35	6'32	3'19	Is taken from the Gobra nullah, the canal and tanks. It is said to be good, and sufficient for both drinking and other purposes. In the hot weather, and before the canal closes for repairs, water is let into some of the tanks.	See page 161 of this Report.
Cutback	...	Kendrapara—Rural	175,323	'40	8'30	4'18	1'30	See page 161 of this Report	See page 161 of this Report.
Cutback	...	Aul—Rural	91,015	'07	11'51	8'77	8'52	See page 161 of this Report	See page 161 of this Report.
Cutback	...	Sakpur—Rural	249,979	'28	7'44	2'44	2'04	See page 161 of this Report	See page 161 of this Report.
Cutback	...	Tirtol—Rural	188,677	'04	7'09	1'23	2'32	See page 160 of this Report	See page 160 of this Report.
Cutback	...	Jagatsingpur—Rural	215,001	'16	7'19	1'20	2'45	See page 160 of this Report	See page 160 of this Report.
Cutback	...	Patamundal—Rural	100,401	'18	20'21	8'16	2'20	See page 161 of this Report	See page 161 of this Report.
Cutback	...	Dhyanasala—Rural	248,762	'16	9'55	8'33	1'08	See pages 160 and 161 of this Report	See pages 160 and 161 of this Report.
Cutback	...	Banti—Rural	55,900	'05	3'79	'50	1'31	Information for this thana is not yet available.	

Puri	...	Puri—Towns	24,784	'04	9'44	25'13	9'76	Drinking water is taken from wells and tanks. The latter, being held sacred, are also used for bathing and ceremonial purposes, and during festivals a great deal of rice, flour, fruits, leaves, turmeric, &c., are thrown into the water, thus contaminating it highly. On chemical analysis the water of both tanks and wells were pronounced unfit for drinking. The improvement of the water-supply is under consideration.	See page 161 of this Report.
Puri	...	Puri—Rural	187,149	'07	4'08	6'48	2'71	The drainage is very defective. A scheme for improving it is in abeyance. The old outfall and the few surface street drains are kept clean. The drains being few in number, the roads serve the purpose of drains during the rains.	See page 161 of this Report.
Puri	...	Pipli—Rural	226,783	'06	3'05	4'43	3'43	Particulars regarding the sanitary condition of the villages in these thanas are not yet available.	
Puri	...	Khurda—Rural	299,478	'17	1'19	1'50	1'21	Some of the villages are situated on fairly high ground with good natural drainage, some on low with defective drainage, but nowhere is there a regular system of drainage. See also page 161 of this Report.	See page 161 of this Report.

Surface cleansing is attended to, but not sufficiently. The sweepings are utilized in filling up holes and depressions, and the excreta is buried. There are no public latrines, and defecation is promiscuous. The arrangements connected with the disposal of the dead are unsatisfactory.

Surface cleansing is attended to properly. There are 21 public latrines. The state of the latrines in the native portion of the town is very deplorable. Many of the people employ no latrines, and those who do never see that they perform their work properly, so that the high soil is allowed to accumulate for a very long time. The night-soil from the private privies which have been placed under municipal management, is treasured, but in rather deep pits. Some of the people dedicate on the sand or in cess-pits and middens. The condition of the lodging-houses maintained for the pilgrims who resort to this town is bad. They are insanitary in point of accommodation, defective in ventilation, and their latrine arrangements are very bad. The first defect has since been remedied.

The habits of the people are filthy in some places. The ventilation of the houses is generally good, but instances of defect are not rare, and the houses in some places are crowded together, damp, and surrounded by jungle. Conservancy soil, Night-soil, cow-dung and refuse are heaped near houses in some places. With few exceptions, the dead are buried and cremated outside the villages. See also page 161 of this Report.

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Fever.	Cholera.	Bowel-complaints.			
Puri	Gope—Rural ...	116,167	109	6'05	2'30	2'16	Particulars regarding the sanitary condition of the villages in this thana are not yet available.		
Puri	Banpur—Rural ...	83,927	112	7'43	3'63	4'19	Drainage is defective generally, but fair in some places. The roads of some villages have side-drains, which are not obstructed. See also page 103 of this Report.	See page 102 of this Report ...	The villages are situated on low ground. The houses are fairly well ventilated generally, but many are badly ventilated, and some are subject to damp. The habits of the people are cleanly. In some places the dead are buried close to villages. See also page 103 of this Report.
Balasore	Balasore—Town ...	20,365	129	8'43	7'50	7'15	The natural drainage is fairly satisfactory. A good system of drainage is being steadily progressed with. Till this scheme is completed the lodgment of water in the town, due to its irregular surface, will continue to disappear slowly by percolation and evaporation.	Is taken from the river, tanks and wells. Four tanks and one well, containing good water, have been reserved for drinking purposes. All other sources are impure, and the water-supply is inadequate.	Surface cleansing is looked after carefully. This town is said to be the cleanest seen in India by the Magistrate, but the Civil Surgeon says that its sanitation is defective in all details, particularly with regard to drainage. There are only four public latrines. They are clean—four to six times a day. There are eight urinals in the bazar and on the bazar road. The private privies are kept in an unattractive condition. Premiseous dejection is very general. The night-soil is trampled, but in deep pits. There are many low-lying patches of land. Matters relating to the disposal of the dead, markets, and slaughter-house require to be better attended to.
Balasore	Balasore—Rural ... Basta—Rural ... Jellesore—Rural ... Soran—Rural ... Balupat—Rural ... Bhadrak—Rural ... Rasulpore—Rural ... Dhammapore—Rural ... Chandhalli or Moto—Rural.	87,490 71,186 53,102 187,368 83,226 168,972 71,354 182,21 51,926	70 98 98 43 64 51 25 65 25	4'97 6'34 7'31 10'51 9'69 8'63 23'64 9'37 17'17	3'18 3'30 1'65 2'73 4'60 4'27 2'78 2'73 3'15	5'31 8'50 3'30 4'21 4'60 4'27 4'17 4'75 2'48	Particulars regarding the sanitary condition of the villages in these thanas are not available, as they were not visited this year.		
Hazaribagh	Hazaribagh—Town ...	15,366	.....	5'34	3'39	2'23	The natural drainage is good. The drains are not kept in good condition during the rains. The main drain walls are not in good condition. The drainage of the gowalla quarter is non-effective.	Is taken from public and private tanks and from private wells. The water-supply is on the whole good, particularly that taken from the public tanks, which are protected from pollution.	Surface cleansing of the streets is attended to, but not that of the lanes, the establishment being insufficient. The outlying villages are in bad condition. The public latrines are insufficient, and the private ones are not kept scrupulously clean. Premiseous dejection takes place. The houses in the bazar are badly constructed and ill-ventilated. The arrangements for the disposal of the dead are good, excepting that no provision exists with regard to the cholera and small-pox dead. The offal of the cattle slaughtered is thrown into pits.
Hazaribagh	Hazaribagh—Rural ...	87,718	.....	17'27	2'25	2'23	See page 139 of this Report ...	See page 139 of this Report.	See page 139 of this Report.
Hazaribagh	Chatra—Town	Data not available.					See pages 143 and 145 of this Report ...	See pages 143 and 145 of this Report.	See pages 143 and 145 of this Report.
Hazaribagh	Echak—Town	Data not available.					See page 141 of this Report ...	See page 141 of this Report.	See page 141 of this Report.
Hazaribagh	Chatra—Rural ...	64,018	.....	31'46	.....	1'10	See page 140 of this Report ...	See page 141 of this Report	See page 141 of this Report.

Hazaribagh	Gawan—Rural	...	53,375	'01	12-97	.....	'33	See page 140 of this Report	...	...	See page 140 of this Report.
Hazaribagh	Kashmar—Rural	...	47,094	.....	17-98	'10	'97	Particulars regarding the sanitary condition of the villages in this thana are not available, as they were not visited this year.			
Hazaribagh	Chowparan—Rural	...	70,437	.....	10-93	'08	'31	See page 140 of this Report	...	...	See page 140 of this Report.
Hazaribagh	Bagoda—Rural	...	59,302	.....	16-99	'45	'96	See page 140 of this Report	...	...	See page 140 of this Report.
Hazaribagh	Simuria—Rural	...	37,029	.....	24-27	.....	'32	See page 141 of this Report	...	...	See page 141 of this Report.
Hazaribagh	Girdih—Towns	...	Data not available.					See pages 141 and 142 of this Report	...	...	See pages 141 and 142 of this Report.
Hazaribagh	Pachamba or Girdih—Rural	...	86,007	'01	21-74	'04	'30	See pages 139 and 140 of this Report	...	...	See pages 139 and 140 of this Report.
Hazaribagh	Jugueswar—Rural	...	53,593	'01	21-71	.....	'55	See page 139 of this Report.	Is taken from kutcha wells, which are used for all purposes, and their surroundings are filthy. See also page 139 of this Report.	Some of the villages are surrounded by jungle, and are in an abominably filthy condition. Jute is steeped in shallow pools of water and in small streams. See also page 139 of this Report.	
Hazaribagh	Barhi—Rural	...	53,464	'01	13-79	'11	'53	Particulars regarding the sanitary condition of the villages in this thana are not available, as they were not visited this year.			
Hazaribagh	Dumri—Rural	...	63,685	'01	21-03	'04	'83	See page 141 of this Report	...	...	See page 141 of this Report.
Hazaribagh	Kharakdih—Rural	...	150,545	.....	8-90	'01	'15	See page 140 of this Report	...	...	Here the filth is swept into heaps or into holes in the ground, and subsequently removed and used as manure. See also page 140 of this Report.
Hazaribagh	Koderma—Rural	...	73,902	'06	10-96	'01	'14	Particulars regarding the sanitary condition of the villages in this thana are not available, as they were not visited this year.			
Hazaribagh	Huntergunge—Rural	...	66,864	'01	22-93	'08	'24	See page 141 of this Report	...	...	See page 141 of this Report.
Hazaribagh	Ramgarh—Rural	...	73,933	.....	17-49	'06	'53	The natural drainage is good, the villages being situated on elevated ground. See also page 139 of this Report.	Is taken from kutcha wells, daris, shallow tanks, bandhs nullas, and river, all more or less polluted. See also page 139 of this Report.	The people are filthy in their habits. The houses are ill-ventilated, and their surroundings filthy. Cow-dung and house-refuse are accumulated everywhere. No conservancy. Defecation is promiscuous. See also page 139 of this Report.	
Hazaribagh	Tandwa or Paghur }—Rural	...	53,780	.....	20-43	'03	'23	The natural drainage is good, the houses being situated on elevated ground. See also page 139 of this Report.	Is taken from pucca and kutcha wells, daris, bandhs and river. The river is polluted by washing of clothes and cattle, and burning of the dead on its banks. The bandhs dry up. See also page 139 of this Report.	The houses are ill-ventilated and crowded together, but some tile-roofed houses are to be met with. No conservancy. Cattle are kept in compounds of houses, and their dung as well as the sweepings and house-refuse are stored in pits outside of the villages. There are some well-privies to be met with. Defecation is carried on on the fields. The dead are cremated on the banks of rivulets. See also page 139 of this Report.	

District.	Name of Circle.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—					SANITARY ESTIMATES OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—		
		Population.	Small-pox.	Fever.	Cholera.	Ravel-com-	Drainage.	Water-supply.	Domestic cleansing.
Lohardugga	Ranchi-Town	18,443	.....	14'36	'05	2'54	The natural drainage is good, but the drains, which, with few exceptions, are kutcha, are not sufficiently attended to, and have been quite overgrown with grass and weeds, and consequently much obstructed.	Is taken from wells for drinking, and from tanks for bathing, washing clothes, and other purposes. The well-water is very pure and of good quality. But the poorer classes use wells, drains, and springs for all purposes. In the hot season the want of water is much felt, as the wells, although numerous, dry up.	The conservancy arrangements are fairly satisfactory. Surface cleansing is well attended to. There are public latrines in all parts of the town, but they are not kept as clean as they ought to be. All the private privies are cleaned twice a day. There are no well-privies. The night-soil is carefully trenched. The arrangements connected with interment and cremation are satisfactory.
Lohardugga	Ranchi-Rural	198,153	.....	11'01	'12	1'30	The natural drainage is good, as the rain-water drains out completely into the fields. In some villages the drainage is obstructed by vegetation. See also page 136 of this Report.	Drinking water is taken from kutcha, unproved, filthy wells, which are also used for all other purposes. There are tanks exposed to surface pollution, but they are resorted to for the washing of cattle and clothes. In some places water is taken from drains which are open to pollution. Where rivers exist, their water is used for all purposes. Water from the nullahs is not drunk, but clothes and cattle are washed in them. Jute is steeped in nullahs. See also page 136 of this Report.	The houses are ill-ventilated and somewhat crowded and in some places the villages are surrounded by under-growth and low vegetation. Many of the houses have tiled roofs and are not damp. In some villages personal cleanliness is not observed. The poor keep their cattle in the sleeping room of their houses at night. Heaps of decomposing cow-dung, sweepings, and other refuse are to be seen close to almost every house or in pits and excavations, which are removed once a year to the fields. Defecation is carried on on roadsides and fields. Carcasses are thrown on adjacent fields to rot. The dead are buried close to houses. See also page 136 of this Report.
Lohardugga	Daltonganj Rural	64,023	'66	21'71	1'24	'08	See page 138 of this Report	See page 138 of this Report	See page 138 of this Report.
Lohardugga	Lodna (Kera)-Rural	67,226 67,972 354	.....	9'85	.....	2'07	See page 137 of this Report	See page 137 of this Report	See page 137 of this Report.
Lohardugga	Choree or Mandor-Rural	56,593 46	.....	16'68	.....	1'28	See page 137 of this Report	The chief source of water-supply is the dari, which is essentially a natural spring. At the part where the water issues from the spring an excavation is made for drawing the water by means of vessels. This shallow dipping well is usually brimful for these springs are mostly perennial. The quality of the water in the dari is extremely bad, owing (1) to the land immediately surrounding it being turned into ricefields, (2) to damming up the margins of the knets, which retards the outflow of the spring-water; (3) to the water of the dari becoming frequently continuous with a small pond of water in the sodden field outside; (4) to its liability to be frequented, and consequently polluted, by cattle. There is also another source of water-supply, called the "chow-hi," consisting of a shallow excavation in the sandy bed of a small stream. The percolating water is fairly good in quality, when the sand is, as is frequently the case, free from organic impurities.	See page 137 of this Report.
Lohardugga	Tura or Khunti-Rural	104,14	Data no	Data no 7'01	.....	2'54	See page 137 of this Report	See page 137 of this Report	See page 137 of this Report.

Lohardugga	Lohardugga—Baral	122,6	'01	8'26	.....	'72	See page 137 of this Report	As in Choree	...	...	...	See page 137 of this Report.
Lohardugga	Korambe—Baral	89,0	.....	15'27	.....	'78	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Tamar—Baral	95,6	.....	8'24	.....	1'27	The natural drainage is good. The ground being undulating helps drainage of rain-water, but the large bandhas and marshes keep up dampness for a long time after the rains. See also pages 136 and 137 of this Report.	Is taken from wells, which are mostly kutchas and bandhas dars, and rivulets. The dari water is filthy. See also pages 136 and 137 of this Report.	The houses are crowded together and all-ventilated. Conservancy nil. The house refuse and ashes are heaped up at the backs of houses. Defecation is promiscuous. The dead are interred and cremated at the backs of houses, on roadsides, and on banks of streams. See also pages 136 and 137 of this Report.			
Lohardugga	Silli—Baral	68, Data	.....	9'84	.....	2'00	Drainage is imperfect. Some of the houses are situated on high and some on low ground. Where streams exist, they drain the localities through which they pass. See also page 136 of this Report.	In taken from wells, which are mostly kutchas, and promiscuously used, and in dirty condition, and from tanks, streams, nullas and dars. The tanks are often polluted by surface drainage and otherwise. There are bandhas also, but their water is covered with weeds and their banks overgrown with vegetation, rendering them unfit to be utilised for drinking purposes. The river-water is polluted in various ways, and in several tanks, rivulets, marshes, jute is steeped. In some places the river dries up, when water is obtained by digging into its dry bed. See page 136 of this Report.	The houses are damp in the rainy season. The villages are in filthy condition, the pathways being covered with rubbish and refuse. House-refuse and rotting cow-dung accumulations are to be met with near houses. The latter is also heaped in adjacent fields. Cattle are kept close to sleeping rooms and in compounds. Defecation is promiscuous. The dead are cremated in adjacent fields and on banks of streams, tanks, and bandhas. See also page 136 of this Report.			
Lohardugga	Basia—Baral	97, 68, 17, 93	.....	8'08	.....	1'06	Particulars regarding the villages in this thana are not available, as they were not visited this year.	Same as in Choree	...	...	...	Same as in Choree.
Lohardugga	Palkot—Baral	108,719	'009	7'76	.....	1'01	Same as in Choree	...	...	...	...
Lohardugga	Barway—Baral	51,680	'19	11'27	.....	1'66	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Bira—Baral	60,061	.....	6'16	.....	1'35	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Bahmal—Baral	66,553	'06	11'34	.....	'34	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Baresund—Baral	14,667	.....	17'05	.....	1'77	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Manika—Baral	44,993	'21	19'25	.....	'45	See page 133 of this Report	Same as in Choree. See also page 138 of this Report.	See page 138 of this Report.			
Lohardugga	Patan—Baral	79,635	'02	19'64	'17	'37	Same as in Choree	...	...	...	...	Same as in Choree.
Lohardugga	Chattarpur—Baral	36,391	'10	18'69	'68	'27	See pages 137 and 138 of this Report	...	...	...	...	See pages 137 and 138 of this Report.
Lohardugga	Garna—Baral	75,869	'03	22'07	9'23	'54	See page 138 of this Report	...	...	...	...	See page 138 of this Report.
Lohardugga	Ramkanda—Baral	64,300	.....	13'35	.....	'40	Particulars regarding the villages in this thana are not available, as they were not visited this year.					
Lohardugga	Hosnabad—Baral	102,515	'07	14'31	9'42	'23	Particulars regarding the villages in this thana are not available, as they were not visited this year.					

SANITARY ESTIMATE OF THE VILLAGES IN EACH CIRCLE UNDER THE HEADS OF—

District.	Name of Circle.	Population.	RATIO OF DEATHS PER 1,000 OF POPULATION FROM—				Drainage.	Water-supply.	Domestic cleansing.
			Small-pox.	Rever.	Cholera.	Howel-som-plaints.			
Singbhum	Chalabassa—Town	6,006	.....	14.31	.....	4.16	The natural drainage is good, and it is supplied by drains on the roadside. Some of these drains are pucca saucer-shaped ones, and they are in good order. The extension of the pucca surface drain is a necessity.	Is taken from tanks, wells, and the river. The wells are well protected from pollution; but the clearing out of the tanks and wells is indicated.	Surface cleansing is well attended to, the sweepings, &c., being utilised in the jail garden. There are only two public and two iron (Hornbury's) latrines, but these are insufficient. There are a few private privies. Defecation is yet carried on on the fields out of town. Night-soil is properly disposed of. There are no cess-pits near houses.
Singbhum	Chalabassa—Rural	206,652	.....	11.14	.....	4.49	See pages 144 and 145 of this Report	See pages 144 and 145 of this Report	See pages 144 and 145 of this Report.
Singbhum	Chuckerdharpar—Rural	76,408	.....	7.73	.....	1.34	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Singbhum	Ghatalla—Rural	165,709	0.06	12.35	0.04	1.11	See pages 144 and 145 of this Report	See pages 144 and 145 of this Report	See pages 144 and 145 of this Report.
Singbhum	Serakela—Rural	77,062	.....	7.87	0.05	1.41	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Singbhum	Kharawan—Rural	51,127	.....	4.40	.....	1.41	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Manbhum	Purulia—Town	9,304	.....	11.07	0.21	2.27	The natural drainage is good. The municipal drains with their branches discharge into the rivulet to the east and north. The drains are kutras, but the floors of most of them are pitched with stone. They are kept clean and in efficient working order.	Water for drinking is chiefly taken from the Sahabkunge lake. It is good and sufficient, but the lake requires deepening in some parts. Bathing is carried on in five large tanks, and well-water is used for culinary and other domestic purposes. The latter is, however, drunk to some extent.	Surface cleansing is well attended to. The sweepings and refuse are removed to places set apart for the purpose far from habitations. There are four public latrines. The private privies are not under municipal management. The night-soil is removed away from habitations. Cow-dung is met with in the compounds of houses. Latrines in bad condition exist. The arrangements for the disposal of the dead are good.
Manbhum	Purulia—Rural	177,487	.....	12.07	0.03	2.26	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Manbhum	Jaipore—Rural	24,258	.....	11.00	.....	1.27	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Manbhum	Jhalda—Town		Data not available				See page 144 of this Report	See page 144 of this Report	See page 144 of this Report.
Manbhum	Jhalda—Rural	67,133	.....	12.89	0.04	2.26	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Manbhum	Bagnundi—Rural	33,384	.....	13.98	.....	1.43	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.
Manbhum	Ichagar—Rural	64,242	.....	9.18	0.01	1.15	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report	See pages 144 to 147 of this Report.

Manbhum ...	Barabhum—Rural ...	133,847	.....	8'56	'17	'44	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Manbazar—Rural ...	68,615	.....	13'24	'11	'65	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Raghunathpore—Rural	108,688	.....	10'02	'21	'45	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Gouraudi—Rural ...	45,793	'02	10'78	'19	'45	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Para—Rural ...	39,740	.....	11'07	'22	'33	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Chass—Rural ...	89,173	'01	8'57	'06	1'32	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Govindpore—Rural ...	39,573	'02	14'03	'42	1'43	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Tundi—Rural ...	18,417	.....	22'36	.....	'32	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Jharra—Rural ...	39,854	.....	13'19	.....	'27	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Sirsha—Rural ...	50,627	.....	8'15	'39	'67	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.
Manbhum ...	Topchanchi—Rural ...	49,013	...	15'47	'41	'85	See pages 144 to 147 of this Report	...	See pages 144 to 147 of this Report.

* For a general account of the Sanitary condition of the Villages in these Districts, see pages 146 and 147 of this Report.

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,
The 20th June 1887.

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

· APPENDIX No. VII.

STATEMENTS EXHIBITING PARTICULARS REGARDING THE VACCINE
OPERATIONS OF THE YEAR 1886-87 AND OTHER INFORMATION
CONNECTED THEREWITH.

STATEMENT No. I.—Showing particulars of Vaccination in each

Number.	CIRCLES AND DISTRICTS.	POPULATION.	Average population per square mile.	Average number of vaccinators employed throughout the season.	TOTAL NUMBER OF PERSONS VACCINATED.			Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION.					
					Males.	Females.	Total.		Total.			Success.		
									Males.	Females.	Total.	Under one year.	One year and under 6.	
1	2	3	4	5	6			7	8			9		
	Calcutta Circle of Superintendence.													
1	Calcutta	433,219	54,152	19	5,786	4,777	10,563	556	5,178	4,401	9,589	4,176	4,172	
	Metropolitan Circle of Superintendence.													
1	Burdwan	1,284,307	516	80	15,298	14,750	30,048	1,002	15,298	14,750	30,048	8,201	22,081	
2	Bankura	850,424	383	40	12,230	11,800	24,030	602	12,230	11,800	24,030	1,316	10,957	
3	Birbhum	786,580	448	20	10,097	10,534	21,531	1,077	10,097	10,534	21,531	1,846	15,120	
4	Midnapore	2,583,862	481	69	22,273	21,292	43,565	631	22,264	21,284	43,548	7,110	27,986	
5	Hughli (including Serampore)	881,164	742	30	12,813	12,076	24,889	840	12,813	12,076	24,889	3,200	17,804	
6	Howrah	609,763	1,189	14	8,655	8,490	17,145	932	8,655	8,490	17,145	3,388	12,394	
7	24-Pargunnahs	1,860,012	679	65	19,633	17,657	37,290	573	19,633	17,657	37,290	5,743	27,493	
8	Nuddea	1,545,291	567	41	21,088	19,982	41,070	1,002	21,088	19,982	41,070	4,662	32,027	
9	Jessore	1,879,784	658	80	20,440	24,605	51,045	574	20,437	24,603	51,040	4,736	38,698	
10	Khulna	1,059,518	515	51	20,216	19,023	39,238	769	20,216	19,022	39,238	4,291	23,286	
11	Murshidabad	1,143,166	541	38	23,028	21,451	44,479	1,170	23,025	21,450	44,475	4,306	33,107	
	Total	13,869,901	550	401	192,671	181,719	374,390	763	192,656	181,708	374,364	43,687	261,744	
12	Calcutta (Bovine Vaccination Department).	251,439	10,932	2	388	77	465	232	30	10	46	31	7	
13	Suburbs of Calcutta			12	2,028	5,844	13,872	1,156	5,272	4,796	10,068	2,977	5,440	
	TOTAL OF METROPOLITAN CIRCLES	14,111,240	559	505	201,087	187,040	388,262	770	197,958	186,520	384,478	46,685	270,191	
	Darjiling Circle of Superintendence.													
1	Dinajpur ... By licensed agency	1,501,786	365	60	21,384	19,503	40,887	681	21,373	19,502	40,875	8,295	29,043	
2	Maldah ... By ditto ditto	803,324	307	37	12,651	12,112	24,763	609	12,651	12,112	24,763	6,475	17,556	
3	Rajshahy ... By ditto ditto	1,809,763	557	56	21,334	19,033	40,367	721	21,293	19,009	40,302	8,023	29,020	
4	Rungpore ... By ditto ditto	2,020,841	698	55	24,147	22,256	46,403	843	24,147	22,256	46,403	5,598	38,184	
5	Bogra ... By ditto ditto	724,212	434	32	8,823	8,431	17,254	589	8,823	8,431	17,254	3,429	13,480	
6	Pubna ... By ditto ditto	1,275,424	602	56	20,784	20,898	41,682	744	20,794	20,808	41,692	8,556	30,074	
7	Darjiling ... By paid ditto	144,191	118	5	6,095	5,649	11,744	2,349	6,095	5,649	11,744	2,952	3,807	
8	Darjiling ... By licensed ditto			2	700	625	1,325	652	700	625	1,325	633	639	
9	Jalpaiguri ... By ditto ditto	573,615	199	38	7,751	6,912	14,663	386	7,751	6,912	14,663	5,553	6,378	
9	Purneah ... By ditto ditto	1,833,071	373	50	26,819	24,374	51,193	1,021	26,818	24,374	51,192	12,272	37,565	
	Total ... { By paid ditto			5	6,095	5,649	11,744	2,349	6,095	5,649	11,744	2,952	3,807	
	Total ... { By licensed ditto	10,082,817	418	392	144,408	134,144	278,552	711	144,350	134,119	278,469	50,253	204,940	
	TOTAL OF DARJILING CIRCLE			397	150,408	139,793	290,301	731	150,445	139,768	290,213	62,255	208,650	
	Ranchi Circle of Superintendence.													
1	Manbhum ... By licensed agency	1,009,070	255	32	14,838	13,718	28,556	894	14,850	13,690	28,540	7,792	20,081	
2	Singbhum ... By paid ditto	555,054	128	10	6,005	5,744	11,749	1,175	6,005	5,744	11,749	2,360	7,943	
3	Hazaribagh ... By licensed ditto	1,003,784	153	23	10,208	9,044	19,252	837	10,208	9,044	19,252	5,144	12,768	
4	Lohardugga ... By paid ditto		145	2	13,190	12,408	25,598	597	13,192	12,445	25,637	5,543	17,839	
5	Lohardugga ... By licensed ditto	1,302,775	145	2	9,472	8,904	18,376	835	9,472	8,904	18,376	3,633	12,896	
6	Political States of Sirgaja, Jhanspur, Gangpur and Bonai	402,546	41	48	23,640	22,605	46,245	1,781	23,632	22,647	46,279	12,077	32,959	
	Total ... { By paid agency			32	15,477	14,644	30,125	941	15,477	14,644	30,125	5,903	20,830	
	Total ... { By licensed ditto	4,364,083	122	173	72,044	67,216	139,260	805	71,940	67,159	139,109	38,275	97,884	
	TOTAL OF RANCHI CIRCLE			205	87,521	81,864	169,385	826	87,457	81,807	169,264	42,268	118,233	
	Sonthal Pergunnahs Circle of Superintendence.													
1	Sonthal Pergunnahs ... By licensed agency	1,547,642	283	76	20,202	19,553	39,755	523	19,442	19,061	38,503	6,195	29,650	
2	Bhagalpore ... By paid ditto			During recess.	32	42	74	...	32	48	74	1	56	
3	Bhagalpore ... By licensed ditto	1,903,033	447	54	14,450	13,703	28,213	522	14,450	13,768	28,218	3,062	22,087	
4	Monghyr ... By paid ditto			42	35,363	34,403	69,766	1,663	35,362	34,463	69,825	5,410	62,111	
5	Monghyr ... By licensed ditto	1,884,021	482	97	8,278	2,760	6,045	62	8,275	2,767	6,042	429	5,391	
	Total ... { By paid ditto			42	35,365	34,505	69,900	1,664	35,394	34,505	69,899	5,411	62,169	
	Total ... { By licensed ditto	5,334,716	301	227	37,023	36,085	74,013	323	37,187	36,591	73,778	10,876	57,198	
	TOTAL OF SONTHAL PERGUNNAHS CIRCLE			269	73,382	70,590	143,913	535	72,561	70,090	142,657	16,287	119,397	
	Eastern Bengal Circle of Superintendence.													
1	Mymensingh ... By licensed agency	2,891,854	478	124	33,234	30,032	64,104	517	33,234	30,032	64,108	6,846	43,167	
2	Faridpur ... By ditto ditto	1,600,621	711	84	17,055	16,800	33,851	403	17,036	16,799	33,835	2,889	22,607	
3	Noakhali ... By ditto ditto	816,048	468	46	4,850	4,862	9,712	200	4,850	4,862	9,712	1,144	5,606	
4	Dacca ... By paid ditto			During recess.	248	189	437	.....	246	188	434	41	386
5	Dacca ... By licensed ditto	2,023,628	725	92	22,757	21,985	44,742	490	22,757	21,985	44,742	3,841	33,090	
6	Tipporah ... By ditto ditto	1,488,289	601	78	22,257	22,011	44,268	568	22,257	22,011	44,268	5,917	30,745	
7	Backergunge ... By paid ditto			97	95,512	92,713	188,225	1,941	95,512	92,713	188,225	5,453	70,401	
8	Backergunge ... By licensed ditto	1,610,840	628	3	1,219	1,161	2,380	768	1,219	1,161	2,380	138	499	
	Total ... { By paid ditto			97	95,760	92,803	188,008	1,945	95,758	92,901	188,659	8,474	70,687	
	Total ... { By licensed ditto	10,510,780	586	437	101,372	97,247	198,619	465	101,358	97,340	198,693	20,369	138,914	
	TOTAL OF EASTERN BENGAL CIRCLE			524	197,182	190,140	387,321	739	197,111	190,141	387,252	28,743	306,901	

role of Superintendence during the year 1886-87.

RE-VACCINATION.										PERCENTAGE OF SUCCESSFUL CASES.		RELIGION OF THE NUMBER VACCINATED.				Persons successfully vaccinated per 1,000 of population.	AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING THE PREVIOUS FIVE YEARS.		AVERAGE NUMBER OF DEATHS FROM SMALL-POX DURING THE PREVIOUS FIVE YEARS.	
Total.				Successful.				Primary.	Re-vaccination.	Total number vaccinated of—				Number.	Ratio per 1,000 of population.		Number.	Ratio per 1,000 of population.		
Above 6 years.	TOTAL AT ALL AGES.	Males.	Females.	Total.	Under 1 year.	1 year and under 6.	Above 6 years.			TOTAL AT ALL AGES.	Hindus.	Mahomedans.	Christians.						Other races.	
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
492	8,840	608	286	894	...	100	100	97'64	13'58	6,743	3,063	656	101	20'63	9,514	21'96	158	'36		
4,800	30,032	...	...	...	...	...	...	99'94	...	27,108	2,910	...	...	28'38	...	97	'07
5,751	24,024	...	...	...	...	...	...	99'72	...	23,215	845	...	...	25'11	...	24	'02
6,528	21,508	...	...	...	...	...	...	99'86	...	16,709	4,790	...	...	27'33	...	16	'02
8,234	43,330	9	8	17	...	11	11	99'49	04'70	41,787	1,775	3	...	17'80	...	363	'14			
3,771	24,874	...	...	...	...	...	...	99'93	...	21,391	3,491	7	...	28'22	...	26	'02
1,468	17,140	...	...	...	...	...	...	99'97	...	14,586	2,559	...	...	32'33	...	16	'03
4,018	37,248	...	...	...	...	...	...	99'88	...	22,882	14,100	308	...	27'38	...	34	'02
4,163	40,882	...	...	...	...	...	...	99'60	...	15,101	25,787	182	...	26'43	...	80	'05
7,451	50,785	3	2	5	2	2	2	99'65	40'00	19,729	31,258	58	...	27'01	...	18	'09			
11,638	39,107	...	...	...	...	...	...	99'80	...	16,817	22,421	...	...	30'99	...	9	'09
7,059	44,372	3	1	4	...	4	4	99'70	100'00	20,270	24,200	...	...	38'82	...	120	'10	
64,736	373,357	15	11	26	2	15	17	99'75	65'38	230,715	134,115	500	...	26'03	347,175	25'04	807	'05		
4	42	358	61	419	...	61	61	10'00	16'80	195	100	164	...	40	592	4'04	92	'36		
1,086	9,503	2,756	1,048	3,804	...	21	1,738	98'08	60'32	9,489	4,262	181	...	44'73	10,759	42'78	...	'06		
65,616	3,82,002	3,129	1,120	4,249	...	23	1,814	99'71	62'30	2,40,399	1,38,483	945	...	27'26	358,524	25'40	809	'06		
3,518	40,851	11	1	12	...	1	10	99'99	01'00	18,446	22,371	18	52	27'20	...	18	'01			
732	24,793	...	...	...	...	...	...	100'00	...	11,579	12,994	...	100	35'71	...	85	'05
1,708	40,251	41	24	65	...	6	54	99'94	02'30	5,846	34,520	1	...	30'77	...	15	'01			
2,746	46,328	...	...	...	...	...	...	99'95	...	17,716	28,668	...	19	22'85	...	4	'001
355	17,254	...	...	...	...	...	...	100'00	...	2,464	14,790	...	...	23'83	...	6	'008
2,087	41,017	...	...	...	...	...	...	99'87	...	8,891	32,701	...	...	32'02	...	5	'004
5,860	10,049	...	...	...	...	...	...	99'82	...	10,839	88	14	703	73'45	...	15	'10
33	1,325	...	...	...	...	...	...	100'00	...	885	409	...	31	9'18	...	6	'01
530	14,400	...	...	...	...	...	...	99'53	...	9,680	4,007	2	08	25'20	...	44	'02
1,338	51,175	1	...	...	...	...	...	99'00	...	27,373	24,009	2	...	27'90	...	...	'02
3,860	10,640	99'82	...	10,930	88	14	703	1'05	58,510	5'80		
16,023	278,024	53	25	78	...	7	04	99'93	91'02	102,980	1,75,100	23	360	27'68	245,556	24'35		
17,782	288,073	53	25	78	...	7	64	99'03	91'02	113,925	1,75,267	37	1,072	28'63	3,04,006	30'15	163	'01		
523	28,398	48	28	76	...	10	30	99'61	52'03	27,503	1,108	5	...	28'18	...	40	'04			
1,383	11,086	...	...	...	...	...	...	99'51	...	11,721	1	24	...	21'01	...	64	'11
1,107	19,111	...	...	...	...	...	...	99'64	...	18,845	117	200	...	81'37	...	240	'24
1,055	25,338	8	21	29	...	...	27	99'85	98'10	23,580	2,230	37	...	25'25	...	287	'20	
1,358	17,885	...	...	...	...	...	...	99'69	...	16,809	1,511	50	...	13'72	...	...	...
452	46,068	8	8	16	...	...	16	99'02	100'00	43,704	944	1,683	...	33'37	...	Not under registration.	...	
370	19,245	...	...	...	...	...	...	99'40	...	19,423	18	...	...	39'07	...	...	...
2,739	29,571	99'62	...	28,533	1,512	80	...	6'78	34,018	7'79		
4,407	138,156	64	57	121	...	10	73	100'00	08'50	132,915	4,430	1,915	...	31'67	98,465	22'56		
7,236	187,727	64	57	121	...	10	73	99'72	08'50	161,448	5,942	1,905	...	38'45	132,476	30'35	630	'14		
2,591	38,436	700	492	1,252	...	6	1,167	99'82	03'00	15,412	4,281	363	19,090	25'50	...	134	'08			
15	74	...	...	...	...	...	...	100'00	...	74	...	...	...	'03	...	400	'25
2,057	28,006	99'58	...	23,692	4,060	...	452	14'78		
2,105	69,626	1	...	...	...	...	...	99'78	100'00	63,633	6,025	13	155	30'95	...	526	'27
218	6,032	1	99'83	100'00	5,180	336	3	626	3'20		
2,130	60,700	1	99'78	100'00	63,707	6,025	13	155	13'06	50,527	12'95		
4,800	72,564	761	404	1,255	...	8	1,168	99'73	03'70	44,284	8,636	366	20,677	13'32	57,489	13'17		
6,940	148,264	702	404	1,256	...	0	1,168	99'75	03'71	107,991	14,711	379	20,832	20'83	114,015	26'12	1,150	'21		
14,616	64,129	...	...	...	...	...	...	99'99	...	15,176	48,748	1	240	21'40	...	408	'13
8,339	33,735	19	...	...	...	...	...	99'80	100'00	15,470	18,296	95	...	21'09	...	179	'11
2,644	9,194	...	...	...	...	...	...	99'91	...	2,372	6,821	9	...	11'27	...	437	'53
61	408	2	1	3	...	1	...	99'60	33'33	238	195	3	1	'20	...	167	'08			
7,775	44,709	...	...	...	...	...	...	99'02	...	16,741	27,996	4	...	23'09	...	330	'23
7,006	44,288	...	...	...	...	...	...	100'00	...	16,053	24,215	...	...	29'74	...	222	'13
190,309	188,143	99'96	...	97,197	80,808	1,130	...	116'43		
1,340	2,390	100'00	...	2,000	371	1'40		
100,390	188,571	2	1	3	99'94	33'33	97,436	90,083	1,133	1	17'87	130,688	13'44		
42,333	196,415	19	7	26	99'94	400'00	67,841	130,429	169	240	18'81	131,808	12'40		
151,623	836,966	21	8	29	99'94	93'10	165,276	220,522	1,242	241	36'68	271,496	25'73	1,743	'16		

Table of Superintendence during the year 1886-87—concluded.

		RE-VACCINATION.						PERCENTAGE OF SUCCESSFUL CASES.		RELIGION OF THE NUMBER VACCINATED.				Persons successfully vaccinated per 1,000 of population.	AVERAGE ANNUAL NUMBER OF PERSONS SUCCESSFULLY VACCINATED DURING THE PREVIOUS FIVE YEARS.		AVERAGE NUMBER OF DEATHS FROM SMALL-POX DURING THE PREVIOUS FIVE YEARS.		
		Total.			Successful.					Total number vaccinated of—					Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.	
Above 6 years.	TOTAL AT ALL AGES.	Males.	Females.	Total.	Under 1 year.	1 year and under 6.	Above 6 years.	TOTAL AT ALL AGES.	Primary.	Re-vaccination.	Hindus.	Mahomedans.	Christians.						Other races.
11	12	13			14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1,888	31,050	...	...	...	...	...	...	...	93'00	...	31,897	2,371	24	...	19'15	}	1,409	'08	
1,200	18,324	...	...	...	...	...	...	...	91'45	...	13,240	847	5	...	7'89		...	368	'14
1,178	14,387	...	...	...	...	...	...	...	93'89	...	14,085	594	43	...	44'48		...	...	...
240	2,595	...	...	...	...	...	...	...	90'98	...	2,862	...	...	...	4'71	...	...	Not under registration.	
3,307	48,932	...	...	...	...	...	...	...	93'80	...	40,144	2,005	67	...	19'25	}	...	...
1,200	13,324	...	...	...	...	...	...	...	94'48	...	13,240	847	5	...	5'24		46,241	8'07	...
4,607	62,256	...	...	...	...	...	...	...	93'04	...	62,393	3,822	72	...	24'40		558	'10	...
7	350	...	...	...	...	...	...	...	95'44	...	295	81	...	...	'23	}	...	...
645	11,914	2	1	3	...	...	...	...	90'00	...	13,851	1,280	...	...	9'80		...	582	'88
5,242	32,019	32	20	52	2	1	...	...	94'06	5'88	30,095	2,319	6	...	17'69		...	...	'12
2,018	16,551	1	2	3	...	...	...	...	98'52	100'0	16,187	739	...	...	8'96	...	...	...
5,249	33,015	32	20	52	2	1	...	...	98'62	5'89	31,290	2,400	6	...	9'79	}	...	...
2,663	31,405	3	3	6	...	...	...	...	98'72	50'0	30,038	2,005	...	...	9'35		26,488	7'80	...
7,912	64,510	35	23	58	2	4	...	...	98'67	10'82	61,328	4,405	6	...	19'14		7,085	2'28	...
128,247	308,803	3,767	1,416	5,173	25	1,000	1,925	98'80	45'00	297,475	170,513	2,254	960	7'80	...	...	...	...
131,100	1,105,335	915	507	1,512	34	1,342	1,370	99'73	91'00	631,028	455,681	2,078	21,280	21'79	...	...	...	...
202,347	1,604,138	4,072	2,013	6,085	50	3,242	3,301	99'51	57'02	1,028,503	5,60,195	5,232	22,246	29'68	1,271,983	25'02	7,383	'14	

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

Table of Superintendence during the year 1886-87.

EXPENDITURE.		PAID FROM—						Number of successful operations.	Average cost of each successful case.
Contingencies.	TOTAL COST.	Imperial Fund.	Provincial Fund.	Local Fund.	Municipalities.	Native States.	TOTAL.		
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
10	20	21	22	23	24	25	26	27	28
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1,587 15 9	8,534 0 0	.....	.....	.....	8,534 0 0	.....	8,534 9 0	8,940	0 15 3
479 0 6	36,697 2 8	.....	36,017 12 2	70 6 6	.....	.....	36,697 2 8	3,78,374	0 1 7
1,334 11 9	3,197 6 11	.....	3,197 6 11	.....	.....	.....	3,197 6 11	103	0 11 0
1,078 0 0	4,624 14 7	.....	1,470 15 6	.....	3,153 15 1	.....	4,024 14 7	11,262	0 1 0
2,887 2 3	44,519 8 2	.....	41,286 2 7	70 6 6	3,153 15 1	.....	44,519 8 2	3,84,739	0 1 10
900 0 0	25,893 5 8	.....	25,893 5 8	.....	.....	.....	25,893 5 8	2,88,744	0 1 5
900 0 0	13,813 13 10	.....	13,813 13 10	.....	.....	360 0 0	13,813 13 10	1,07,810	0 1 3
250 0 0	12,375 0 0	.....	12,375 0 0	.....	.....	.....	12,375 0 0	1,43,441	0 1 4
231 0 0	19,055 2 6	.....	19,055 2 6	.....	.....	.....	19,055 2 6	8,96,993	0 0 9
223 0 0	7,073 8 9	.....	6,007 7 9	.....	.....	108 12 0	7,073 8 9	92,256	0 1 9
58 8 9	10,809 7 3	.....	10,809 7 3	.....	.....	.....	10,809 7 3	64,516	0 2 8
6,017 11 3	1,42,074 2 2	.....	1,29,840 7 7	79 6 6	11,068 8 1	468 12 0	1,42,074 2 2	15,07,439	0 1 6
.....	12,010 3 6	.....	387 8 0	380 6 0	10,912 9 6	398 11 6	12,010 3 6	81,687	0 2 4
6,027	1,54,084 5 8	.....	1,30,227 8 7	459 13 0	22,601 1 7	785 7 6	1,54,084 5 8	15,80,126	0 1 7
11 3									

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

STATEMENT NO. III.—Showing particulars of Vaccination performed by Vaccinators attached

DISTRICTS.	Number of Municipalities, Dispensaries, &c., in the District to which Vaccinators were attached.	Number of Vaccinators attached to the Municipalities, Dispensaries, &c., in the District during the season.	TOTAL NUMBER OF PERSONS VACCINATED.			Total number of persons vaccinated in 1885-86.	Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION.						
			Males.	Females.	Total.			Total.			Successful.			
								Males.	Females.	Total.	Under 1 year.	1 and under 6 years.	Above 6 years.	TOTAL OF ALL AGES.
Burdwan	6	7	1,747	1,459	3,206	2,411	468	1,077	1,439	3,116	566	1,699	787	3,052
Bankura	3	3	815	752	1,567	1,236	522	794	729	1,523	139	1,164	212	1,514
Barbhum	1	1	57	71	128	205	128	57	71	128	48	64	5	117
Midnapore	6	6	949	700	1,649	3,754	276	936	689	1,855	296	937	296	1,531
Hughli including Serampore	8	10	1,688	1,736	3,424	3,080	278	1,583	1,195	2,778	336	1,830	481	2,447
24 Pargunnahs	17	20	3,572	2,948	6,520	6,352	317	2,178	1,590	4,068	923	2,049	167	4,039
Nuddia	9	9	1,335	1,216	2,551	2,241	283	1,320	1,207	2,533	142	1,092	768	2,502
Jessore	3	3	175	167	342	488	811	175	153	328	28	170	103	303
Khulna	3	3	403	358	761	672	263	402	355	757	44	544	162	750
Murshidabad	4	6	1,835	1,818	3,653	3,887	525	1,782	1,290	3,072	302	1,933	796	3,031
Dinsajur	1	1	141	81	222	202	225	134	84	218	19	131	38	183
Rajshahye	2	2	430	436	866	871	425	431	433	864	237	561	55	853
Rangpore	2	3	272	225	497	874	165	264	215	479	62	311	81	464
Boara	5	4	1,189	148	1,337	500	87	106	144	344	133	162	48	333
Pabna	2	2	287	323	610	821	305	283	320	603	107	426	40	592
Darjiling	2	2	668	601	1,269	1,045	597	692	501	1,193	533	341	304	1,178
Jalpaiguri	2	1	159	138	297	227	297	154	137	291	56	205	24	285
Dacca	2	4	1,002	1,204	2,206	2,656	701	1,504	1,198	2,702	414	1,650	629	2,693
Faridpore	4	5	804	825	1,629	405	280	787	617	1,404	118	760	381	1,259
Backergunge	3	3	403	140	543	1,064	201	506	120	516	16	73	277	866
Mymensing	8	9	667	634	1,301	903	173	931	615	1,546	93	780	540	1,413
Tipperah	3	4	748	744	1,492	1,005	373	738	713	1,471	153	958	120	1,231
Chittagong	4	5	200	141	341	285	69	107	132	239	31	198	18	247
Noakhali	2	2	76	41	117	143	58	78	41	117	13	69	29	111
Patna	4	18	3,020	2,642	5,662	7,150	364	3,584	2,584	6,468	1,458	4,091	241	5,790
Gya	4	11	1,922	1,702	3,624	1,723	329	1,904	1,693	3,597	134	2,725	252	3,111
Shahabad	7	8	2,253	1,738	3,991	3,073	442	2,222	1,730	3,952	340	3,018	204	3,522
Mozufferpore	5	8	1,981	1,313	3,294	2,238	412	1,981	1,313	3,294	848	1,866	177	2,911
Durbhanga	5	8	3,384	2,748	6,132	5,520	706	3,383	2,746	6,129	339	5,242	45	5,625
Saran	6	11	1,465	1,329	2,794	3,202	254	1,460	1,325	2,785	425	1,850	223	2,498
Champaran	4	6	226	103	329	349	55	219	99	318	12	155	59	205
Monghyr	3	4	3,612	3,285	6,897	5,455	662	3,585	3,263	6,848	2,452	4,171	127	6,750
Bhagulpore	2	4	940	851	1,791	1,403	440	923	832	1,755	433	1,216	59	1,708
Purneah	1	1	100	161	261	371	357	189	153	342	104	220	15	339
Maldah	2	3	377	419	796	1,024	265	377	419	796	189	389	157	726
Santhal Pargunnahs	4	6	404	377	781	750	130	403	376	779	222	468	37	727
Cuttack	8	25	4,770	3,420	8,190	3,655	327	4,096	3,394	8,090	577	5,250	1,475	7,302
Puri	1	1	208	161	369	503	369	205	161	369	21	187	25	184
Balasore	1	1	612	432	1,044	1,216	1,044	612	432	1,044	73	703	196	972
Hazaribagh	3	4	852	320	1,172	675	32	862	318	1,180	62	409	33	534
Lahardugga	1	1	370	329	699	1,249	699	370	329	699	231	263	76	569
Singbhum	1	1	97	100	197	234	197	97	100	197	66	85	21	174
Manbhum	3	3	221	233	454	600	161	219	224	443	79	274	48	401
GRAND TOTAL	248	248	48,983	39,118	88,101	84,822	365	48,303	38,733	87,036	13,927	56,124	10,078	81,029

OFFICE OF THE SANITARY COMM. FOR BENGAL, }

The 15th May 1887.

to Municipalities, Dispensaries, &c., in the Province of Bengal during the year 1886-87.

RE-VACCINATION.							NUMBER VACCINATED AMONG-				PERCENTAGE OF SUCCESSFUL CASES.		REMARKS.
Total.			Successful.										
Males.	Females.	Total.	Under 1 year.	1 and under 6 years.	Above 6 years.	TOTAL OF ALL AGES.	Hindus.	Mahomedans.	Christians.	Other races.	Primary.	Re-vaccination.	
70	20	90	3	55	57	2,543	652	11	98.19	64.77	
21	23	44	.....	4	15	19	1,528	32	7	.....	99.40	43.18
.....	.....	.....	.....	.....	.....	.....	117	11	.....	.....	91.40	.....
13	10	23	4	1,379	272	7	98.58	17.39	
6	1	7	.....	.....	.....	3	2,449	324	11	.....	95.76	75.
10	8	18	.....	1	9	10	2,986	1,086	14	.....	99.40	55.55
106	29	135	2	72	78	4,771	1,714	35	99.40	80.	
9	9	18	.....	6	5	7	1,356	667	28	.....	98.80	41.17
.....	4	4	.....	2	1	3	122	193	17	.....	95.58	75.
1	3	4	407	346	8	99.33	
53	28	81	.....	6	61	67	2,147	980	6	11	98.89	82.71
7	7	14	.....	.....	.....	5	129	93	3	.....	92.89	71.42
5	3	8	4	3	7	392	471	8	99.53	100.	
8	10	18	.....	4	7	11	214	212	23	48	97.21	64.70
3	3	6	.....	3	.....	3	152	195	.....	.....	97.06	100.
4	3	7	2	2	271	335	4	96.51	28.57	
1	1	2	.....	1	1	1	765	43	46	341	98.82	100.
5	1	6	.....	.....	5	5	124	171	2	.....	100.	83.33
24	6	30	1	42	43	1,308	1,470	28	98.00	97.72	
17	8	25	.....	2	8	10	810	613	.....	.....	94.09	91.66
67	20	87	.....	5	50	59	385	200	18	.....	70.89	70.23
6	9	15	2	5	14	391	1,107	3	92.55	93.33	
10	11	21	.....	3	3	6	702	784	2	.....	92.55	71.42
9	9	18	.....	5	3	17	81	252	6	8	75.07	94.44
.....	73	43	1	94.87	
34	58	92	.....	10	35	45	4,810	1,039	104	.....	93.08	47.87
18	9	27	.....	5	9	14	2,974	647	3	.....	96.67	87.50
11	8	19	1	6	7	2,072	1,278	21	90.58	56.84	
.....	.....	.....	.....	.....	.....	.....	2,380	844	13	1	84.88	.....
1	3	4	.....	.....	3	3	4,879	1,249	4	.....	92.32	100.
5	3	8	3	5	8	1,902	682	10	90.24	100.	
7	4	11	.....	.....	3	3	178	146	5	.....	95.24	27.27
27	22	49	.....	8	15	23	5,906	948	42	1	98.50	40.93
23	19	42	15	16	30	1,269	508	20	97.52	71.42	
7	8	15	.....	.....	.....	.....	268	61	8	.....	99.12	.....
.....	.....	.....	.....	.....	.....	.....	527	449	.....	.....	91.20	.....
1	1	2	1	1	627	141	3	10	94.29	50.	
74	26	100	.....	12	43	57	7,912	194	84	.....	90.48	72.72
.....	.....	.....	.....	.....	.....	.....	304	5	.....	.....	87.15	.....
.....	634	366	54	93.10	
.....	.....	.....	.....	.....	.....	.....	472	191	9	.....	85.69	.....
.....	.....	.....	.....	.....	.....	.....	363	131	206	.....	89.18	.....
.....	123	2	46	26	89.69	
.....	.....	.....	.....	.....	.....	.....	345	72	37	.....	90.51	90.90
.....	
680	885	1,065	21	123	514	658	64,558	22,141	956	440	94.75	64.32	

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

COMPARATIVE STATEMENT No. IV.—Showing the Number of Persons Primarily Vaccinated and the Number of those Persons who were Successfully Vaccinated in each of the undermentioned Official Years.

ESTABLISHMENT.	PERSONS PRIMARILY VACCINATED.																			
	Years ended 31st March—																			
	1877-78.	1878-79.	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.										
	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.								
Government ..	888,622	874,139	506,487	463,020	618,343	604,111	888,900	888,996	531,455	823,212	680,023	672,185	373,231	370,941	251,138	245,656	351,671	379,007		
Municipal ..	86,575	80,447	73,146	67,683	65,295	56,847	53,632	49,627	62,583	59,403	61,961	55,250	63,518	96,399	94,845	90,257	98,611	90,189		
Local Funds ..	1,148	930	1,354	1,053	1,709	1,426	528	469	555	350	.....	.....	.....	.....	.....	.....	.....	.....
Native States ..	3,019	2,512	3,329	2,934	3,900	3,156	4,462	3,881	1,374	1,213	19,136	16,994	35,363	31,967	25,068	24,514	27,263	26,427		
Dispensaries ..	22,919	20,628	19,475	9,292	8,966	7,895	3,580	2,846	6,027	5,532	11,329	9,280	6,591	3,684	4,020	3,621	3,962	3,463		
Work done by Ex-inoculators.	238,228	205,820	682,009	663,453	1,021,130	1,008,451	422,763	414,178	487,619	425,460	474,207	466,894	846,589	836,717	935,433	960,578	981,844	1,090,020	1,086,009	
TOTAL ..	1,240,300	1,165,496	1,876,800	1,539,435	1,717,433	1,681,996	1,383,763	1,339,267	1,339,448	1,315,199	1,246,646	1,233,943	1,350,519	1,324,853	1,457,703	1,437,205	1,361,781	1,346,257	1,602,387	1,585,197

OFFICE OF THE SANITARY COMMISSIONER FOR BENGAL,
The 15th May 1887.

R. LIDDEBDALE, M. D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

A.

Statement showing the Deaths from Small-pox during the year 1886-87 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULATION.	DEATHS DURING—													RATIO OF DEATHS PER 1,000 OF POPULATION.
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.	TOTAL.	
METROPOLITAN.	Burdwan	Calcutta	433,219	2	...	4	2	1	...	1	...	...	...	...	...	11	'02
		Burdwan	27,330	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kalna	81,583	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ranigunge	135,048	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Asansole	98,842	...	1	...	...	...	...	...	...	...	...	...	...	1	'01
		Shahibgunge	75,171	...	...	1	...	...	...	...	...	...	...	...	...	...	...
		Khandghosh	54,981	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raona	97,190	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gangur	102,748	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Selimabad	71,709	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bankura	Ausgram	87,311	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Keturam	73,723	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mangalkot	73,543	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Katwa	70,334	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Monteswar	63,053	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hood-bood	79,073	...	1	...	...	...	...	...	...	...	...	...	...	1	'01
		Purbasthali	82,070	...	1	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,284,307	...	2	1	...	...	...	...	...	...	...	...	...	3	'002
		Bisnampur	119,805	...	...	...	...	...	...	...	...	...	...	...	...	14	'08
		Ganasajukhati	172,607	...	3	...	1	...	...	...	...	...	...	...	...	7	'06
	Birbhum	Bankura	108,804	...	1	3	2	...	1	...	...	...	...	...	...	...	...
		Anda	119,321	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sonamukhi	67,400	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kotalpore	94,064	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Indas	78,809	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Scoopole or Khatra	99,123	...	...	...	...	...	...	...	...	...	...	...	...	2	'02
		Raipore	95,802	...	2	...	...	...	...	...	...	...	...	...	...	...	...
		Total	950,424	11	6	4	1	1	...	...	...	...	...	...	...	23	'02
		Soori	118,801	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dubrajpore	120,508	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Midnapore	Rampurhat	87,774	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bolpur	107,893	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sakulpore	123,723	...	1	1	3	...	...	...	...	...	...	...	...	5	'04
		Moureswar	88,836	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nalhati	133,570	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	786,580	1	1	3	...	...	...	...	...	...	...	...	...	5	'006
		Tamluk	74,003	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Malandpur	80,509	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Canthi	130,554	...	...	...	1	...	...	...	...	...	...	...	...	1	'01
		Chandrakona	58,510	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Hughli and Serampore.	Garbeta	135,786	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Midnapore	128,540	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Narainagar	120,109	...	...	...	...	...	...	...	...	...	...	...	...	2	'01
		Dantun	128,447	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gopiballabpur	130,928	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jhargram	59,782	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Binpur	90,701	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Balmani	63,017	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Keshpur	95,600	...	...	...	...	...	...	...	...	...	...	...	...	1	'008
		Daspur	115,269	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Howrah	Debra	70,120	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sabong	201,714	...	...	...	...	...	...	...	...	...	...	...	...	1	'02
		Panchkura	142,081	...	3	...	...	...	...	...	...	...	...	...	...	...	...
		Sutahatta	54,024	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nundigram	121,896	...	...	...	...	...	...	...	...	...	...	...	...	2	'01
		Raghunathpur	62,124	...	...	...	1	...	...	...	...	...	...	...	...	1	'01
		Egra	63,417	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khajri	43,126	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pataspur	87,324	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bhagwanpur	90,451	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Howrah	Ghatal	71,455	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	2,433,802	3	...	2	...	...	...	...	1	2	...	3	1	12	'004
		Ranabaria	30,143	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hughli	15,458	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dharmakhali	93,537	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Balaasarb	48,218	...	...	...	...	...	...	...	...	...	...	...	...	2	'03
		Pandua	66,113	...	...	1	...	...	...	...	...	...	...	...	...	...	...
		Jehanabad	99,905	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khanakul	133,300	...	...	...	...	...	...	...	...	...	...	...	...	3	'02
		Gorhat	111,181	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Howrah	Holidibatti	49,943	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Haripal	84,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Chanditola	84,387	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Krishnaghar	55,107	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	891,104	...	1	...	...	1	...	...	2	1	1	...	...	6	'006
		Dumjoor	128,477	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Uduberia	81,345	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jugatballabpore	77,530	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ampta	109,998	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bagnah	63,563	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shampore	68,861	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	529,753	...	...	...	...	...	...	...	...	...	2	...	...	2	'003

Statement showing the Deaths from Small-pox during the year 1886-87 IN THE THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULATION.	DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION.		
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.		TOTAL.	
METROPOLITAN—continued.	24-Pergunnahs	Barrackpore including cantonment	14,082	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dum-Dum	8,073	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barasat	62,698
		Hossienabad	62,107
		Baduria	98,452
		Barripore	72,088
		Jaynagar	68,435
		Diamond Harbour	52,828	2	2	05
		Tollygunge	47,793
		Atchipore	62,530
		Histopore	71,717
		Sonarpore	31,858
		Bhangor	78,852	1	1	...	01
		Deyganga	55,516
		Habra	75,429
		Nahati	55,429
		Rasirhat	55,887
		Haroa	40,293	4	...	08
		Mttilah	47,518
		Kulpi	90,319
		Debipore	43,455
		Bankipore	107,275
		Mathurapore	50,453
		Total	1,360,012	1	4	...	2	7	005
Nudda	Kishnaghur	77,897	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kushtia	17,726	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kumarkhali	92,206	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Managhat	75,732	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chugda	55,631	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Jaguli	39,306	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chuadanga	21,814	1	...	...	...	...	...	...	...	...	...	...	...	1	...	04
	Meherpore	65,054	1	...	...	...	...	...	...	...	...	...	...	...	1	...	01
	Kishengunge	32,701	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chupra	63,509	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nakashipara	69,732	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kalgungo	54,192	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tehatta	69,100	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Karimpore	102,754	...	...	...	...	...	...	...	1	...	...	...	...	...	1	005
	Gangni	74,955	...	...	...	...	...	...	...	...	1	...	...	2	2	5	06
	Daulatpore	74,178	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Naupara	136,713	...	...	...	...	...	...	...	...	...	1	...	...	1	...	007
	Bhaluka	41,020	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bhadula	68,184	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Alumdana	80,047	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Damurduda	63,014	1	...	1	...	1	...	...	...	...	...	...	...	...	3	04
	Kalupol	39,396	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Jibunnagar	40,120	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Santipore	24,177	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hanskhali	45,340	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	1,645,201	2	1	1	...	1	...	...	1	1	1	1	2	2	12	007	
Jessore	Kotwali	15,859	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Keshubpore	85,440	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Jhenida	102,627	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kotchandpore	34,907	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Magura	159,162	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Narail	151,362	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bagchirpara	63,902	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Monirampur	155,611	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Godkhali	67,420	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kalligunge	89,202	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Salkhia	50,464	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Muhamadpore	85,677	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Kulua	72,947	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Lohagarra	103,833	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Saikopa	138,305	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gopalnagar	59,688	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gouripotha	61,052	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Moheshpore	112,137	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gaighata	60,223	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Sarsha	79,046	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	1,879,794
	Khulna	Khulna	121,212
		Dumuria	109,020	1	1	009
		Baitaghatta	37,501
Paikgacha		70,478	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Besirhat		137,818	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mollahat		50,478	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rautpal		49,427	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Morailgunge		62,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sytkhira		87,876	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kalarua		81,399	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Magura		48,212	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anasuni		62,412	...	...	...	...	...	...	...	...	1	...	...	...	...	1	01
Kaligunge		140,616	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total		1,050,518	...	...	...	1	...	...	...	...	1	...	...	...	...	2	001

Statement showing the Deaths from Small-pox during the year 1886-87 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE CARRIED ON.	POPULATION.	DEATHS DURING—												TOTAL.	RATIO OF DEATHS PER 1,000 OF POPULATION.
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.		
METROPOLITAN—continued.	Murshidabad...	Sujaganj	8,945	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gorabazar	12,031	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barwan	67,912	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bharatpore	108,025	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shahanagore	9,523	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Assanpore	11,177	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raghunathganj	57,269	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dewansera	55,036	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Goas	78,423	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jhellinghi	108,504	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Daulatbazar	30,588	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hariharpura	57,135	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nowada	47,559	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gokaran	42,444	...	...	...	...	...	...	...	...	...	1	...	...	1	'02
		Kalyangunge	37,206	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Manulla Bazar	1,979	...	...	...	...	...	...	...	...	...	1	...	...	1	'50
		Bhadrihat	27,850	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bhawanigola	57,298	2	1	...	...	...	...	...	...	...	...	...	...	3	'05
		Shamshungunge	69,536	1	4	...	...	3	...	2	...	...	...	1	...	13	'18
		Suti	66,556	...	...	1	...	...	...	...	...	...	...	...	...	1	'01
		Mirzapore	45,406	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khargram	54,018	...	...	...	...	...	...	...	...	...	...	...	4	...	'07
		Barowah or Kandi	79,659	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,145,106	3	5	3	...	3	...	2	...	...	2	1	4	23	'08
		TOTAL	18,859,801	21	16	14	2	6	...	2	5	6	8	6	9	95	'006
		Suburbs of Calcutta	251,439	1	...	...	...	...	...	2	...	...	...	...	...	3	'01
		TOTAL OF METROPOLITAN CIRCLES.	14,111,240	22	16	14	2	6	...	4	5	0	8	6	9	98	'008
DARJILING.	Maldah ...	Dinajpur	190,826	3	...	...	...	...	4	...	...	...	...	...	...	7	'08
		Rajarampore	130,891	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Birgunge	220,397	...	3	1	...	...	...	...	...	...	...	...	...	4	'01
		Ranisankail	75,102	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pirgunge	93,880	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hemtabad	85,287	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nawabgunge	61,687	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kaliagunge	94,882	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bansihari	81,877	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Patnitolla	69,238	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mohadebpore	67,205	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Neotapore	48,586	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Patiram	70,661	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gungarampore	74,191	12	9	1	8	3	1	1	...	...	...	...	...	35	'46
		Chintamon	52,058	...	...	...	...	...	...	...	...	...	...	...	...	1	'01
		Habra	66,793	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,501,786	15	12	9	8	3	5	1	...	...	...	...	...	47	'03
	Maldah ...	Gomastapore	52,810	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kalinchuck	115,692	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		English Bazar	72,615	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kharba	103,051	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Maldah	46,200	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gazole	54,317	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raina	80,024	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sibgunge	102,162	1	...	...	...	...	...	...	...	...	...	...	...	1	'009
		Nawabgunge	66,453	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	628,324	1	...	...	...	...	...	...	...	...	...	...	...	1	'001
	Rajshahye ...	Natore	144,608	...	1	...	1	...	...	...	...	...	...	...	...	2	'01
		Lalpor	84,932	2	3	4	2	...	...	...	...	...	...	...	...	11	'12
		Raghunara	121,681	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Nongraon	85,840	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Manda	103,308	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Putia	121,238	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Singra	112,007	...	...	...	...	1	...	1	...	...	...	...	...	2	'01
		Beaulenah	81,096	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Burigram	121,554	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Charghat	124,160	...	...	...	...	...	1	...	...	...	...	...	...	1	'008
		Godaguri	43,799	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pachupore	79,431	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Tanore	86,609	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,509,753	2	4	4	5	1	1	1	...	...	...	...	...	16	'01
	Bungpore ...	Kaligunge	155,607	...	...	...	...	...	...	...	1	...	...	...	...	1	'006
		Ullipore	215,213	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sadullapore	112,563	...	...	...	...	...	1	...	...	...	...	...	...	1	'008
		Barwan	143,590	...	...	...	...	...	...	...	...	...	...	...	...	2	'01
		Nisbutgunge	124,507	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Mahigunge	116,210	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Jalhadka	163,072	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dinia	133,762	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barabaree	142,512	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kunargunge	85,619	...	...	...	...	...	...	...	...	...	...	...	...	4	'04
		Nageshwari	177,822	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Malanga	90,053	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Pirgunge	69,008	...	1	...	...	...	...	...	...	...	...	...	...	1	'01
		Sundargunge	91,469	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Govindgunge	166,027	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	2,026,841	4	1	...	4	...	1	...	1	2	...	...	...	13	'006

Statement showing the Deaths from Small-pox during the year 1886-87 IN THE THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.

CIRCLES.	DISTRICTS.	TOWNS IN WHICH VACCINATIONS WERE CARRIED ON.	POPULATION.	DEATHS DURING—												TOTAL.	RATIO OF DEATHS PER 1,000 OF POPULATION.	
				April 1896.	May 1896.	June 1896.	July 1896.	August 1896.	September 1896.	October 1896.	November 1896.	December 1896.	January 1897.	February 1897.	March 1897.			
DARJILING—continued.	Bogra	Bogra	216,750	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ahariskandi	103,328	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sherpur	43,406	...	...	...	...	...	...	...	...	...	...	...	...	...
		Shibgunge	59,080	...	...	...	...	...	...	...	...	...	...	...	...	...
		Panchbibi	60,724	...	...	...	...	...	...	...	...	...	...	...	...	...
		Badalgachi	38,574	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pubna	Adamdighi	94,534	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khetlal	40,023	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dhunaut... ..	61,003	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	724,312	...	...	...	...	...	...	...	...	...	...	...	...	...
Pubna		Serajgunge	198,149	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dulai	180,303	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chatmohar	133,407	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mathura	102,490	...	1	...	...	...	...	...	...	...	...	...	1	'009	
	Pubna	174,381	...	...	...	...	...	...	...	...	...	...	...	...	...
	Shazadpore	216,494	...	...	...	...	...	...	...	...	...	...	...	...	...
DARJILING—continued.	Darjiling	Ulipara	171,711	...	...	...	...	...	...	...	...	...	...	...	...	...
		Raigunge	92,374	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,275,424	...	1	...	...	...	...	...	...	...	...	...	1	'0007
		Darjiling	Darjiling	45,300	5	5	'11	
			Phanmid-wa	63,241	10	1	1	13	'20	
			Kurseong	22,907	2	1	7	'30	
	Kalimpang		12,683	...	...	...	...	...	...	...	...	...	...	...	...	...
	Julparguri	Total	144,191	10	1	3	6	...	...	...	...	1	...	4	25	'17
		Julparguri	Silliguri	80,178	
			Hoda	178,643	1	'005	
Jalpauri			67,471	...	...	...	...	...	...	...	...	...	...	...	...	...
Patgram			64,636	...	...	...	1	...	...	...	...	...	...	...	1	'01
Mynaguri			66,451	...	...	...	...	...	...	...	...	...	...	...	...	...
Purneah	Purneah		Alipur	24,086	
		Kairanti	32,453	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dhupguri	51,697	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	573,616	...	...	...	1	...	...	1	...	...	...	...	2	'003
		Purneah	Purneah	138,704	1	'007	
			Kuba Amour	124,869	1	1	'008	
	Dhamdeha		169,891	...	...	...	...	...	...	...	...	...	...	...	...	...
	Gondwara		123,045	...	...	...	...	...	...	...	...	...	...	...	...	...
	Arraea		200,012	...	2	5	...	...	...	...	...	...	...	...	8	'03
	Matari		94,115	...	...	...	...	...	...	...	...	...	...	...	...	...
Manbhum	Manbhum	Raigunge	107,652	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kansengunge	158,100	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bahadurgunge	186,142	...	...	...	...	...	...	...	...	...	...	...	...	...
		Kaligunge	277,059	...	1	...	...	...	...	...	...	...	...	...	1	'003
		Kudwa	154,275	...	1	...	...	...	...	...	...	...	...	...	1	'007
		Balrampore	115,031	...	...	...	...	...	...	...	...	...	...	...	...	...
	Singbhum	Monari	54,456	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,833,671	4	...	...	...	1	3	...	...	2	...	...	15	'006
		Singbhum	TOTAL OF DARJILING CIR- CLE.	10,080	...	24	10	22	5	10	3	1	4	...	1	4	120	'01
			Singbhum	Gourandi	45,783	1	1	'02
Purulia				177,447
Baghmundi				33,384
Ichaghar	64,242			
Manbazar	68,615			1	'01	
Hazaribagh	Hazaribagh	Raghunathpur		108,668	
		Para	39,740	
		Govindpore	39,673	
		Niraha	60,627	
		Topechanchi	48,018	
		Jalipore	24,258	
	Hazaribagh	Jhalda	67,133	
		Harabhum	133,847	
		Chas	89,173	1	'01	
		Tuondi	18,417	
Total		1,000,070	...	...	...	1	...	...	...	...	...	...	1	1	3	'002
Hazaribagh		Hazaribagh	Chaubassa	805,632	
	Chuckerdhurpur		70,408	
	Ghatelia		163,709	1	1	'06	
	Seraikela		77,062	1	2	'02	
	Kharowan		31,127	
	Total		555,968	1	2	3	'005	
Hazaribagh	Hazaribagh	Chatra	52,118	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gowari	53,376	
		Bagdhar	59,303	
		Chitrapuram	70,437	
		Pachanba	86,067	1	1	'01	
		Jageswar	53,688	
	Hazaribagh	Damarhi	98,086	
		Kharackdiba	150,545	
		Hazaribagh	87,718	
		Gimuria	37,029	
Huntergunge		85,954	...	1	...	...	...	...	...	...	...	...	...	...	1	'01
Ranghur		75,953	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hazaribagh	Tandawa or Paghur	55,780	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Keshmar	47,094	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Burhi	52,004	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	1,003,784	1	...	1	...	...	...	...	...	...	...	...	...	2	'001

Statement showing the Deaths from Small-pox during the year 1886-87 in the THANAS in which VACCINATIONS WERE PERFORMED—continued.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE CARRIED ON.	POPULATION.	DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION.	
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.		TOTAL.
RANCHI—continued.	Lohardugga ...	Daltongunge	04,202	7	6	4	...	...	...	...	...	...	...	...	...	17	26
		Ranohi	122,152	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Basia	88,234	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Turpa	104,140	...	...	...	...	...	...	...	...	...	...	...	1	2	009
		Sili	68,335	2	...	...	...	...	...	...	...	...	...	...	...	1	02
		Lodhma	67,988	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Choria	56,220	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Lohardugga	122,023	...	...	...	5	...	...	...	...	...	...	...	...	5	04
		Korambe	89,078	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Barwya	51,080	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SANTHAL PERGUNNAHS.	Sonthal Per- gunnahs ...	Patun	79,055	2	...	...	...	...	...	...	...	...	...	...	...	2	02
		Tamar	95,636	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bernasand	14,067	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ohhattarpur	36,591	3	...	...	...	...	...	...	...	...	...	...	...	3	08
		Garwah	75,890	...	3	...	...	...	...	...	...	...	...	...	...	3	03
		Ramkunda	64,500	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hosseinnabad	102,515	...	...	8	...	...	...	...	...	...	...	...	...	8	07
		Total	1,302,775	14	9	12	5	...	...	...	...	...	...	...	1	41	03
		Political States	492,546	Not under registration.												...	...
		TOTAL OF RANCHI CIRCLE...	4,564,083	15	9	13	6	...	...	...	...	...	...	2	4	49	01
SANTHAL PERGUNNAHS.	Bhagulpore ...	Rajmehal	243,474	20	7	...	...	3	2	1	...	...	...	...	...	34	14
		Deoghur	350,063	1	...	...	...	...	...	...	...	...	...	...	...	2	003
		Pakour	204,019	...	...	2	9	...	...	...	...	...	...	...	...	11	05
		Dumka	361,111	...	...	...	...	...	1	...	...	...	...	...	...	1	002
		Godda	348,493	...	1	...	...	...	...	...	...	...	...	...	...	4	01
		Total	1,547,062	21	8	3	12	3	3	1	...	3	...	...	...	54	03
		Madhehpura	202,078	...	...	1	...	...	...	...	...	...	...	...	...	1	003
		Amerpur	208,508	1	...	...	...	1	...	...	...	...	...	...	...	2	009
		Colgong	180,585	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Khasengunge	157,328	...	2	...	1	...	...	...	...	...	...	...	...	3	02
SANTHAL PERGUNNAHS.	Monghyr ...	Bhagulpore	100,379	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sultanganj	98,427	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Supul	209,042	...	1	...	...	...	...	...	...	...	...	...	...	2	006
		Hunhong	148,580	...	3	...	...	...	...	...	...	...	...	...	...	3	02
		Bihipur	98,403	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bhikpur	134,227	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hanka	153,272	...	...	...	...	...	...	...	...	...	...	...	1	1	006
		Pertahgunge	77,644	...	...	...	...	4	...	...	...	...	...	...	...	4	05
		Katuria ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	1,003,033	1	6	1	1	5	...	...	...	...	...	2	...	16	008
SANTHAL PERGUNNAHS.	Mymensing ...	Suraipurra	166,263	3	5	3	2	1	...	...	...	1	4	...	1	20	13
		Sheikpura	189,140	...	2	...	...	...	...	...	...	1	...	...	...	3	01
		Monghyr	81,736	1	7	5	...	1	1	...	1	...	...	...	...	18	22
		Gogri	365,051	3	11	6	8	3	...	...	...	...	...	2	2	35	09
		Kharakpur	143,079	...	1	...	...	3	...	...	3	...	...	...	...	7	04
		Tegra	203,632	9	6	1	1	1	...	1	1	2	...	...	1	25	13
		Begusarai	379,794	29	16	1	...	...	...	4	2	2	4	5	63	16	
		Sekandra	122,389	...	1	...	...	...	...	...	...	...	...	...	...	1	008
		Chakai	109,540	1	...	...	...	1	...	...	1	1	...	...	1	6	04
		Jamui	112,154	...	...	1	...	...	...	...	...	...	...	...	...	1	008
SANTHAL PERGUNNAHS.	Faridpore ...	Total	1,884,021	46	51	17	12	10	1	1	11	6	6	7	10	178	09
		TOTAL OF SANTHAL PER- GUNNAHS CIRCLE.	5,334,716	69	65	21	25	18	4	2	11	9	6	9	10	248	04
		Kishorgunge	122,705	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ishwarganj	229,452	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Gaffarganj	117,759	...	1	...	...	...	...	...	...	...	...	...	...	1	008
		Agrasundhar	122,459	2	...	...	...	...	...	...	...	...	...	...	...	2	01
		Tangail	400,243	1	...	1	...	...	...	...	...	1	...	...	2	11	02
		Numerabad	207,704	1	...	2	1	1	...	...	...	...	...	...	...	5	01
		Gopalpore or Madhupore	217,704	...	...	...	...	...	...	...	...	...	...	...	...	2	009
		Jamulpore	193,238	11	4	5	1	2	2	...	...	1	...	...	...	28	13
SANTHAL PERGUNNAHS.	Faridpore ...	Pingma	76,262	...	1	...	...	...	...	...	...	...	...	...	...	1	01
		Bazidpore	202,053	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bazidpore	101,372	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Dewanganj	178,280	1	...	...	...	...	...	...	...	...	...	...	...	1	009
		Sherpore	471,038	...	...	...	...	...	...	...	...	...	...	...	...	2	01
		Netrakona	114,407	...	...	...	...	...	...	...	...	...	...	3	4	7	01
		Phulpore	116,467	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Durgapore ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	2,801,854	17	7	8	2	3	2	4	...	2	...	6	8	59	01
		TOTAL OF FARIDPORE CIRCLE.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SANTHAL PERGUNNAHS.	Faridpore ...	Bhanga	164,380	...	...	...	...	...	...	...	...	2	...	...	1	3	01
		Gopalgunge	85,141	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Palang	250,250	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Goalundo	97,399	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Faridpore	81,233	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bhushna	107,415	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Awanpore	100,257	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Makaspore	156,933	4	...	2	...	...	...	...	...	...	...	...	...	6	03
		Shibchar	116,043	...	...	...	...	...	...	...	...	...	...	...	...	1	008
		Pangsa	150,366	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SANTHAL PERGUNNAHS.	Faridpore ...	Baliakandi	65,069	...	...	...	...	...	...	...	...	...	...	...	...	...
		Madaripore	153,619	1	...	...	...	...	...	...	...	...	...	...	...	1	006
		Kotalipara	66,153	...	...	1	...	...	...	...	...	...	...	...	...	1	01
		Total	1,600,521	5	...	3	...	...	...	...	4	2	1	...	1	16	009

Statement showing the Deaths from Small-pox during the year 1886-87 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED—continued.

Circles.	Districts.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULATION.	DEATHS DURING—												TOTAL.	RATIO OF DEATHS PER 1,000 OF POPULATION.				
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.						
EASTERN BENGAL—concluded.	Noakhali	Fenny	132,697	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Ohhagalnyah	100,278	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sogangunge	128,933	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Lakhipur	113,221	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sudheram	90,186	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Rangunge	80,742	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Sandip	72,487	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Bamni	41,731	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hattia	40,295	1	...	...	...	...	...	...	...	...	...	...	...	...	...
		Total	815,648	1	...	...	...	...	...	...	...	1	3	9	9	23	'02	
	Dacca	Lalbagh	164,287	1	...	...	...	...	...	...	...	...	...	...	...	3	'01	
		Harirampore	100,009	...	...	...	...	...	...	...	...	...	...	...	...	...	'03	
		Nawabgunge	180,235	...	4	...	...	...	...	...	...	...	...	...	...	...	'03	
		Jafferungo	143,012	...	...	...	...	...	...	...	...	...	...	...	...	...	'01	
		Naraingunge	91,199	...	...	...	...	...	...	...	...	...	...	...	...	...	'01	
		Manickgunge	184,196	1	2	...	...	...	...	...	...	...	...	...	...	24	'30	
		Munshigunge	245,483	...	...	...	...	...	...	...	...	...	...	...	...	4	'02	
		Kapasia	110,515	4	2	2	5	2	2	1	1	1	...	...	...	...	'01	
		Rupgunge	104,159	...	...	...	...	...	...	...	...	...	...	...	...	...	3	'01
		Srinagar	275,984	...	...	...	...	...	...	...	...	...	...	...	...	...	1	'004
	Tipperah	Mahbar	174,831	1	...	...	...	...	...	...	...	...	...	...	...	...	'02	
		Raipura	202,738	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'02
		Total	2,023,628	7	8	3	5	2	2	1	1	3	8	3	...	42	'02				
		Barkampta	78,521	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'004
		Comillah	125,879	...	...	...	...	...	...	...	...	...	...	...	...	1	1	'004
		Brahmanberia	223,751	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'004
		Baudkandi	143,222	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'004
		Jagannathdighi	103,218	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'08
		Kaaba	114,162	...	...	...	...	...	...	...	...	...	...	...	...	1	14	'08
		Hajigunge	172,347	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'006
	Backergunge	Nabinagar	162,323	...	...	...	...	...	...	...	...	...	...	...	...	...	1	'03
		Muradnagar	112,034	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'03
		Chandpore	86,872	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'03
		Laksham	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'03
		Total	1,488,289	...	4	1	...	...	...	...	...	...	2	8	3	2	20	'01
		Bauphal	95,188	2	2	'03		
		Jhalokati	141,958	1	7	'04		
		Gaurnaddi	184,192	2	14	'07		
		Medhivunke	145,711	8	25	'07		
		Barrisal	118,700	8	'08		
	Backergunge	Backergunge	125,700	'07		
		Nalohiti	78,641	'01		
		Surupkati	160,284	1	'01		
		Rhola	123,169	'01		
		Perozepore	115,048	'07		
		Barhanndi	89,081	'25		
		Patuakhali	173,801	'18		
		Bhandaria	73,352	1	'18		
		Total	1,029,849	19	8	10	2	4	2	3	16	25	17	4	8	124	'02				
		TOTAL OF EASTERN BENGAL CIRCLE.	10,549,789	40	27	30	9	9	6	8	21	35	37	25	28	284	'02				
ORISSA.	Cuttaack	Cuttaack	155,335	4	1	1	...	...	...	...	...	...	...	...	...	...	...	'11
		Tirtol	183,677	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'15
		Jagatsingpur	215,001	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'11
		Dharamsala	238,762	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'24
		Jajpore	250,503	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'15
		Kendrapara	175,323	14	1	...	...	...	...	...	...	...	...	...	...	...	...	'27
		Aul	91,015	3	...	...	...	...	...	...	...	...	...	...	...	...	...	'27
		Salipore	240,979	6	...	...	...	...	...	...	...	...	...	...	...	...	...	'28
		Patamundi	109,401	1	...	...	...	...	...	...	...	...	...	...	...	...	...	'28
		Total	1,607,996	42	12	1	6	3	1	2	3	16	36	180	177	429	'2				
	Puri	Khurda	260,478	13	6	4	5	2	...	...	...	...	...	...	...	...	...	'1
		Baipur	53,927	...	...	...	...	...	...	...	...	...	...	...	...	...	...	'9
		Total	323,405	13	6	4	6	2	...	...	...	...	...	...	...	...	...	'1
Tributary States		549,995	Not under registration.											
TOTAL OF ORISSA CIRCLE			2,541,396	55	18	5	12	5	1	5	3	20	39	136	180	479	'1				

Statement showing the Deaths from Small-pox during the year 1886-87 in the THANAS IN WHICH
VACCINATIONS WERE PERFORMED—concluded.

CIRCLES.	DISTRICTS.	THANAS IN WHICH VACCINATIONS WERE PERFORMED.	POPULATION.	DEATHS DURING—												TOTAL.	RATIO OF DEATHS PER 1,000 OF POPULATION.	
				April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.			
BEHAR.	Patna	Fatua	88,051	...	...	...	...	...	...	...	...	...	...	...	1	1	01
		Behar	253,312	1	1	...	...	3	...	1	...	...	...	...	...	0	02
Attasara		78,932	...	...	...	...	...	...	...	...	...	...	...	...	...	2	02
Silao		51,477	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...
Patna		27,674	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bankipore		97,001	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Masuria		120,613	1	...	...	1	1	...	...	...	...	...	...	...	...	3	02
Bikram		180,302	...	...	...	...	1	...	...	...	...	...	...	...	4	5	02
Hilaa		176,075	1	...	...	1	1	...	...	...	...	...	...	...	...	2	01
Dinapore		67,612	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Maner		98,516	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Barrh		170,380	1	1	...	1	...	...	8	1	...	...	...	...	1	13	07
Mokameh		93,824	2	...	...	...	...	...	...	...	3	...	2	...	...	7	07
		Total	1,524,038	6	2	...	3	5	...	9	1	2	1	3	6	39	02	
Shahabad	Domraon	242,103	9	...	2	1	...	...	2	...	...	...	...	1	15	06	
	Belouti	183,311	3	5	...	...	1	...	...	...	...	...	...	...	9	04	
	Shahua	166,005	1	2	...	...	...	...	1	...	1	...	1	1	7	04	
	Arrah	281,437	2	2	2	...	1	3	1	1	15	26	4	0	66	23		
	Dhaugain	179,916	3	...	2	1	...	...	...	...	...	...	...	...	6	03	
	Buxar	145,587	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mohania	150,413	2	1	...	1	2	...	...	...	...	...	...	...	6	03	
	Dehrio	78,884	4	3	...	...	...	...	...	...	...	...	...	...	7	08	
	Susseram	133,042	...	1	1	1	...	...	...	...	...	...	...	...	3	02	
	Kharkhar or Nokha	104,647	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pira	179,492	...	...	...	...	1	...	...	...	...	...	...	...	1	005	
	Total	1,845,827	24	14	7	4	5	3	4	1	16	26	5	11	120	06		
	TOTAL OF BEHAR CIRCLE			3,369,865	30	16	7	7	10	3	13	2	19	27	8	17	159	04
	TOTAL FOR THE PROVINCE			50,787,125	277	175	104	86	54	24	36	43	93	118	186	253	1,448	02
	Municipalities, Dispensaries, &c.			2,428,099	20	02	42	31	29	2	6	10	7	8	16	50	278	11
	GRAND TOTAL			53,215,824	297	237	140	117	83	26	42	53	100	121	202	302	1,720	03

R. LIDDERDALE, M.D.,
Deputy Surgeon-General,
Sanitary Commissioner for Bengal.

OFFICE OF THE SANY. COMM. FOR BENGAL,
The 15th May 1887.

B.

Statement showing the Total Deaths registered from Small-pox in ALL THE DISTRICTS of the Bengal Province during each month of the year 1886-87.

DISTRICTS.	POPULATION.	NUMBER OF DEATHS DURING—												RATIO OF DEATHS PER 1,000 OF POPULATION.	REMARKS
		April 1886.	May 1886.	June 1886.	July 1886.	August 1886.	September 1886.	October 1886.	November 1886.	December 1886.	January 1887.	February 1887.	March 1887.	TOTAL.	
Calcutta	433,319	2	...	4	3	1	...	1	...	...	...	...	...	11	'02
Bardwan	1,301,823	1	4	1	...	...	...	...	...	...	...	...	5	11	'007
Bankura	1,041,752	11	6	4	1	1	...	...	...	...	...	...	...	23	'02
Birbhum	794,423	...	1	3	...	...	...	...	...	...	...	...	...	5	'000
Midnapore	2,515,565	3	...	2	...	...	...	...	3	2	...	3	1	14	'005
Hughli including Serampore ...	1,015,005	...	...	...	...	1	...	...	2	1	1	...	...	6	'005
Howrah	635,381	...	...	...	...	...	...	...	...	2	...	...	...	2	'003
24-Pergunnahs	1,618,420	2	1	...	...	...	...	...	1	...	4	1	3	12	'007
Suburbs of Calcutta	251,439	1	...	...	...	...	...	2	...	...	...	...	...	3	'01
Total of 24-Pergunnahs ...	1,869,859	3	1	...	...	...	...	2	1	...	4	1	3	15	'008
Nuddan	1,055,721	2	1	1	...	1	...	...	1	1	1	2	...	12	'007
Jessore	1,930,375	...	1	...	...	...	...	...	...	...	...	...	...	1	'0005
Murshidabad	1,220,700	3	5	3	...	3	...	2	...	...	2	1	5	24	'01
Khulna	1,079,948	...	...	...	1	...	...	...	3	...	...	...	...	4	'003
Dinajpur	1,514,346	15	12	3	3	3	5	1	...	...	...	...	...	47	'03
Rajshahye	1,338,038	2	4	4	3	1	1	1	...	...	...	...	1	17	'01
Rangpore	2,097,004	4	1	...	4	...	1	...	1	2	...	...	...	13	'006
Bogra	734,358	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pubna	1,311,728	...	1	...	...	1	...	...	...	...	...	...	...	2	'001
Darjiling	156,137	10	1	3	6	...	...	...	...	...	1	...	4	25	'16
Jalpaiguri	581,562	...	...	...	1	...	...	1	...	...	...	...	...	2	'003
Maldah	710,448	1	...	...	...	...	...	...	...	...	...	...	...	1	'001
Purneah	1,848,687	4	5	...	...	2	3	...	...	2	...	...	3	19	'01
Dacca	2,116,350	8	9	2	5	3	2	2	1	3	3	3	1	47	'02
Faridpore	1,631,734	5	...	3	...	...	...	...	4	2	1	...	2	17	'01
Backergunge	1,500,880	18	8	16	2	4	2	2	15	25	23	22	19	156	'08
Mymensing	3,051,006	17	7	8	2	3	2	4	...	2	...	6	8	50	'01
Tipperah	1,519,338	...	1	1	...	...	...	...	...	2	...	3	3	21	'01
Chittagong	1,132,341	1	...	...	...	...	...	...	...	...	...	...	...	1	'0008
Noakhali	820,772	1	...	...	...	...	...	...	...	1	3	9	9	28	'02
Patna	1,756,856	7	2	2	4	11	...	9	2	3	1	5	8	54	'03
Gya	2,124,082	37	47	27	9	15	33	5	7	8	5	3	23	219	'10
Shahabad	1,964,909	27	20	8	13	8	3	4	1	16	26	6	13	145	'07
Mozufferpore	2,534,060	34	33	20	18	3	4	3	1	5	6	10	33	170	'06
Durbhanga	2,631,447	28	20	43	11	3	1	1	...	10	...	21	21	159	'06
Saran	2,280,382	15	24	22	17	9	3	5	1	2	2	4	7	111	'04
Champaran	1,721,608	229	354	243	133	107	18	7	7	10	10	13	50	1,100	'69
Bonghyr	1,969,774	47	55	20	14	10	1	1	11	6	6	7	12	190	'09
Bhagulpore	1,966,158	1	6	1	1	5	...	...	...	...	...	2	1	17	'008
Sonthal Pergunnahs	1,598,093	21	8	3	12	5	3	1	2	3	...	...	...	58	'03
Cuttack	1,705,065	42	12	1	6	3	1	4	4	16	37	133	164	443	'24
Puri	898,487	20	15	7	8	5	7	5	1	4	6	8	14	94	'10
Balasore	845,280	32	15	6	6	2	4	5	4	57	116	92	50	398	'42
Hazaribagh	1,104,742	1	...	1	1	6	...	...	...	...	...	...	...	7	'006
Lohardugga	1,609,244	10	15	12	5	...	...	...	...	1	...	...	...	51	'03
Singbhum	561,964	...	...	...	...	...	...	...	...	...	...	1	2	3	'005
Manbhum	1,058,228	...	...	...	1	...	...	...	...	...	...	1	1	3	'002
TOTAL	69,697,103	669	698	474	295	214	88	66	72	186	267	356	505	6,990	'05
Ratio of Deaths per 1,000 of Population ... ..	...	'01	'01	'007	'004	'003	'001	'0009	'001	'002	'004	'005	'007	'05	.....

OFFICE OF THE SANITARY COMM. FOR BENGAL.

The 15th May 1887.

R. LIDDERDALE, M.D.,

Deputy Surgeon-General,

Sanitary Commissioner for Bengal.

RESOLUTION.

Darjeeling, the 29th October 1887.

SANITATION.

READ—

The Report of the Sanitary Commissioner for Bengal for the year 1886, including the Report on Vaccination in Bengal for the year 1886-87.

Read also—

The Report for the previous year and the Resolution recorded upon it.

The remarks of the Bengal Government on the length of the Sanitary Commissioner's report for 1884 had the desired effect of reducing to some extent the size of the volume for 1885. The Government of India, in reviewing the Report and Resolution for the latter year, called particular attention to this fact, and remarked that the report appeared to be capable of still further abridgment, and that the statistics of the province of Bengal, in their present state of imperfection, hardly called for such exhaustive criticism as they had received at the hands of Dr. Lidderdale. Notwithstanding the fact that Dr. Lidderdale's attention was specially directed to these remarks, the Lieutenant-Governor regrets to observe that the report for 1886 contains 163 pages, being indeed very little shorter than the report for 1884, the "inordinate length" of which was condemned by the Government of India. Sixty-eight pages of the report are devoted to the personal proceedings of the Sanitary Commissioner and his subordinates—no doubt a useful record, but containing much which need not be embodied in an annual report. Sir Steuart Bayley is of opinion that the results of the year's administration can well be placed before Government in a report of 50 or 60 pages, and he trusts that the Sanitary Commissioner will aim at reducing the report of 1887 to some such dimensions.

2. *Registration of Births.*—Births were registered in 45 towns against 46 in the preceding year, showing a ratio of only 21·04 per 1,000 against 24·71 in the previous year. As the work of registration in those municipalities in which Act IV (B.C.) of 1873 is in force has passed from the Police to the Municipal Commissioners, Sir Steuart Bayley hopes to see some improvement on these "radically defective figures;" but to accomplish this end the close and sustained attention of the Commissioners will be necessary.

3. *Registration of Deaths.*—The ratio of deaths to population was 21·99 per 1,000 of the population against 22·74 in 1885, the ratio varying from only 13·24 in Mozufferpore to 36·17 in Shahabad. As the year was a healthy one, it is not necessary to infer any retrogression in registration, the number of deaths from cholera alone having decreased by 55,399. Much seems to depend on the individual interest taken in the matter by different Magistrates and police officers. A copy of paragraph 4 of the report will be sent to all Commissioners and to the Inspector-General of Police for communication to Magistrates and District Superintendents of Police. It will also be sent to the Municipal Commissioners of towns in which the Compulsory Registration Act is in force. The provisions of this law were extended during the year to 31 towns, making a total at the close of the year of 148 towns and one rural area in Darjeeling.

4. *Causes of mortality.*—The following table shows the death-rate from various causes during 1886, 1885, and the quinquennial period 1881-85:—

	PROPORTION OF DEATHS PER 1,000 OF POPULATION.								
	In 1886.			In 1885.			In 1881-85.		
	Urban.	Rural.	Province.	Urban.	Rural.	Province.	Urban.	Rural.	Province.
Cholera	4·12	1·70	1·78	5·22	2·53	2·62	4·38	1·91	1·99
Small-pox	·08	·01	·03	·33	·14	·14	·53	·21	·23
Fevers	12·29	16·11	15·97	14·40	15·79	15·75	15·08	14·44	14·48
Bowel-complaints	3·77	·73	·84	4·12	·85	·96	3·79	·78	·89
Injury	·50	·43	·43	·50	·43	·43	·42	·36	·34
Other causes	6·51	2·74	2·88	7·02	2·06	2·81	6·13	2·24	2·58
• ALL CAUSES	27·29	21·79	21·99	31·63	22·42	22·74	30·07	19·98	20·35

The death-rate in rural circles was 21·79 per 1,000, and in urban circles 27·29. The figures from 1881 to 1886 tend to show that urban circles are more unhealthy than the rural areas, and that better registration in the former cannot alone account for the widely divergent ratios. With reference to Dr. Lidderdale's remarks regarding the mortality among European seamen and the native floating population, the insanitary condition of the river and its causes have been noticed in paragraph 7 of the Resolution on the Report of the Health Officer for 1886, and the necessary orders have been passed. The opinion of the majority of local officers is that the year 1886 has been healthier than the preceding year. This opinion is endorsed by the Sanitary Commissioner, who attributes it principally to a decrease of cholera and small-pox, and a reduction in the price of food-grains owing to a good harvest.

5. *Cholera*.—The recorded deaths from cholera were 118,368, or a ratio of 1·78 per thousand, against 173,767, or a ratio of 2·62 in 1885. The disease attacked 21,567 villages, or 9·33 per cent. of the total number of villages in the Province, against 29,239, or 12·61 per cent. in 1885. In paragraph 35 a table is given showing the meteorological peculiarities which obtained during different periods of cholera outbreak in certain tracts, but the Sanitary Commissioner expresses an opinion that this method of enquiry is not likely to throw much light upon the causes of the disease. Meanwhile, as he remarks, the conditions which foster the disease are well known, and what the Sanitary Department require is more power and more money to remove them. In this connection he has given interesting details regarding the outbreak and prevalence of cholera in different districts, and some of the instances cited by him show conclusively that even the educated portion of the community have not yet universally realised the necessity for general sanitation, and especially for a pure water-supply. The Commissioners of Baraset, when advised to set aside certain tanks for drinking water, urged that bathing was as necessary as drinking. The Commissioners of Baduria declined to interfere with the "time-honoured custom" by which Mahomedans bury their dead within their homesteads. Sir Stuart Bayley was under the impression that this custom had been to a great extent given up, but is surprised to hear of its continuance even in municipalities. The remarks of the Sanitary Commissioner on this head will be communicated to, and considered in, the Municipal Department. In other instances the outbreak of cholera is clearly traced to the use of impure water for drinking or culinary purposes. The details given in one or two cases show that the water used was unfit to be drunk even by cattle. Whenever there was a severe outbreak of the disease, all or almost all the usual insanitary conditions were found to exist, namely, filth, foul air, impure water, ill-constructed or ill-ventilated homesteads, and unwholesome or insufficient diet.

6. *Small-pox*.—The recorded number of the deaths from small-pox, which had decreased from 18,533 in 1884 to 9,563 in 1885, showed a still further fall to 4,049. This is the smallest number yet recorded, the mean average of the decade 1876-85 being 15,317. It was, moreover, reported by several medical officers that many of the cases returned as small-pox were really cases of measles, eruptive fevers, or pulmonary complaints. The great immunity from the disease enjoyed during the year under report is doubtless due to the extension of vaccination during recent years. Fifty-five per cent. of the total mortality occurred in the seven districts of the Patna Division, to only two of which has vaccination yet been extended; 31 per cent. of this mortality occurred in the district of Chumparun alone. Statistics have for several years shown that 75 per cent. of the mortality from this disease occurs among infants and children.

7. *Fever*.—The recorded mortality from fevers was 1,057,296, or a ratio of 15·97 per thousand of the population under registration, against 1,012,142, or a ratio of 15·75 in 1885. The mean death-rate of the decade 1876-85 was 12·27. It is noticeable that during the previous decade the urban population suffered from fever considerably more than the rural; but during the year under report the ratio of mortality was only 12·29 in urban circles, while it was 16·11 per 1,000 in rural circles. The death-rate exceeded 20 per thousand in ten districts, the worst districts being Julpigoree (31·01), Shahabad (29·20), Pubna (27·68), and Rungpur (27·12). Burdwan and Beerbhoom do not figure among these districts, but Nuddea stands ninth on the list. The district

reports repeat the same melancholy story of weakness, anæmia, enlarged spleen and liver, debilitated constitutions, pulmonary and enteric complications, and other sequelæ; and among the causes assigned are dense jungle, imperfect drainage, rank vegetation, bad water-supply, silting up of tanks and tanks, water-logged soil, burial of dead within homesteads, vicissitudes of temperature, general uncleanness, insufficient clothing, poor food, damp and improperly-constructed houses. In Khulna an extremely virulent type of fever occurred. Assistant Surgeon Umesh Chunder Ghose, Deputy Superintendent of Vaccination, found that 79 per cent. of the children examined by him in the Satkhira thana had enlargement of the spleen; in several villages in thana Magoora the disease was present in every house; and in thana Kalarooa, which suffered much, the water of the river Betna was found to be so bad as to kill the fish in it. The District Magistrate will be asked to inquire further during the ensuing cold weather into the causes of this outbreak.

8. *Mortality from other causes.*—The mortality from “bowel-complaints,” “injury,” and “other causes” during the year amounted to 55,693, 29,081, and 190,818 respectively. The corresponding figures for 1885 were 63,808, 28,956, and 186,209. In connection with the first of the above heads, it is a noteworthy fact that hill diarrhœa “now occurs in Darjeeling with seasonal regularity during the early months of the rainy season, when not a household escapes it, although in former years it was one of the advantages claimed for Darjeeling as a sanitarium that it was free from this plague of other hill stations.” The causes of the disease are probably increase of population and overcrowding.

9. *Vaccination operations.*—The particulars given in the report regarding vaccination are for the official year 1886-87. As regards this portion of the report, which covers 30 pages, Sir Steuart Bayley would remark that the minute details given no doubt find a fitting place in reports submitted by subordinates to the head of a department; but they are quite inappropriate in a report submitted to Government by the head of a department. Such a report should summarize the results of the year’s administration, and deal with matters of importance and salient features in such a way that they can be readily seen and reviewed by Government. Extremely minute details are given regarding the sources and character of the lymph employed during the year, the production and employment of bovine lymph, operations performed, local opinion on the value of bovine lymph, &c.; while several paragraphs are taken up with a full account of the results of certain experiments. These would be appropriate in a special report submitted with a view to some special action being taken, or to some change in a policy hitherto followed; but they are unnecessary in an annual administration report.

The following table shows the total number of vaccination operations performed during the year under report and the previous year:—

Total number of Vaccinations performed.

Circles.	1886-87.	1885-86.
Calcutta	10,563	12,365
Metropolitan Circles	374,390	373,347
Suburbs of Calcutta, including operations in Central Vaccination Depôt	14,337	14,044
Total of Metropolitan Circles	388,727	387,391
Darjeeling Circle	290,291	252,562
Ranchi Circle	169,385	126,426
Sonthal Pergunnahs Circle	143,913	114,530
Eastern Bengal Circle	387,281	286,032
Orissa Circle	66,277	57,681
Behar “	65,739	47,178
Total of Vaccination Circles	1,522,176	1,284,174
Municipalities, Dispensaries, &c.	88,101	84,822
GRAND TOTAL	1,610,277	1,368,996

Every circle contributed to the increase except Calcutta, where there was a diminution of 1,802 operations, said to be chiefly due to the smaller number of unprotected children. A proposal came up during the year for the employment of women in the Vaccination Department. The Sanitary Commissioner was not in favour of the proposal on the grounds that vaccination is freely accepted from the present agency, and that no difficulties in this respect arise from the zenana system; whereas operations may be retarded and complicated by the introduction of a new element, difficult to control and not easily moved about. Sir Stuart Bayley did not think it necessary to take any further action on the proposal, though he is by no means sure that Dr. Lidderdale's objections are conclusive. As regards the work performed by the licensed and Government agencies, it is only natural that the former should have actually accomplished more, as the number of licensed operators is 1,811, while there are only 285 Government operators; but the total number of vaccinations performed by each class shows that each Government vaccinator performed on an average 1,443 operations, while the number performed by each licensed vaccinator was only 613.

The total expenditure on vaccination during the year amounted to Rs. 1,54,084-5-8, of which Rs. 67,980-7-8 was the cost of maintaining the Government agency, and Rs. 74,093-10-6 the cost of supervising the licensed agency, while Rs. 12,010 3-6 was paid by municipalities. The licensed vaccination system was considerably extended during the year. Revised rules were sanctioned, and it is hoped that they may put a stop to some of the irregularities and abuses which have been brought to notice. It is gratifying to observe that the opposition to vaccination is gradually giving way before the perseverance and persistency of the Vaccination Department; in some districts it is willingly accepted, and in others eagerly sought for.

10. *The Compulsory Vaccination Acts.*—The Compulsory Vaccination Act V (B.C.) of 1880 is now in force in 114 towns, four cantonments and nine rural areas, having been extended to ten towns during the year under report and to 19 others on the 1st April last. The amending Act II (B.C.) of 1887 was passed just after the close of the year. It would appear from the Sanitary Commissioner's report that the extension of the Act has done no good in many cases, the requirements of the law not having been carried out. The attention of the Magistrates concerned will be drawn to paragraph 155 of Dr. Lidderdale's report.

Act IV (B.C.) of 1865, prohibiting inoculation, is now in force everywhere with the exception of seven districts and certain thanas of three other districts.

11. *Village Sanitation.*—In a memorandum, dated the 25th February 1887, reviewing the Bengal Sanitary Report for 1885, the Army Sanitary Commission proposed a scheme of organised sanitary reform which, if carried out on the scale which they appear to contemplate, would undoubtedly lead to a marked improvement in the health of the people of Bengal. After commenting on the highly unwholesome conditions prevailing in most of the villages inspected by the Sanitary Commissioner and his assistants, and noticing the vast numerical preponderance of dwellers in villages over dwellers in towns, the Commission repeat the opinion expressed by them in former years that "the most important sanitary problems in Bengal are those connected with the population of villages." Owing to "the apathy or indifference displayed by the people to the simplest elements of sanitation" and their "long-continued filthy habits," the Commission regard these problems as hopeless "unless some more effectual method be adopted for overcoming apathy and substituting active and efficient work for it." The method advocated in the memorandum is of a simple and searching character. It consists in calling in the aid of an experienced Sanitary Engineering Department to apply its principles and experience to each case as it arises." Where the soil of a village has become polluted by persistent neglect of sanitary precautions, "the alternative at once suggests itself of selecting new sites for such villages, placing the sites in good sanitary state, laying down an authoritative code of village sanitary law, with means of execution, and inspection, and then removing the village by degrees. The vacated sites would have some value as 'manured land.'" The duty of carrying out these extensive reforms, and of seeing that the people, when settled in their new homes, do not revert to their

former habits of life, would, it is understood, be entrusted to the Sanitary Engineering Department which the Commission proposes to constitute.

12. There can be little doubt that the internal arrangements of most villages in Bengal go far to bear out the strictures of the Army Sanitary Commission. Out of 5,206 villages inspected in 1885, the period dealt with in the memorandum, nearly all were conspicuous for sanitary defects, amply sufficient, if regarded solely from the scientific point of view, to justify the introduction of the sweeping reforms suggested by the Commission. A considerable amelioration of the public health would probably result from the adoption of these measures, which embody the latest ideas of hygienic experts, and appear, were they only practicable, admirably adapted to attain the ends for which they are designed. The history of the Mohommedan dynasties no doubt furnishes us with instances (not always successful) of the entire population of large cities being forcibly removed to new sites; but neither the legal powers nor the financial resources at the disposal of the Lieutenant-Governor are such as to enable him to hold out any prospect of being able to adopt the measures which have the advocacy of the Army Sanitary Commission. Projects of material improvement necessarily involve some consideration of ways and means; and in this case it may be feared that even if the wishes of the people concerned could be entirely disregarded, still the value which (as the Commission point out) the abandoned village sites would possess "as manured land" would hardly suffice to meet the cost of demolishing the existing houses, acquiring new sites, and in fact removing and rebuilding the greater number of the villages in Bengal. For the present, then, Sir Steuart Bayley regrets that he cannot see his way to giving effect to the views of the Commission, and meanwhile we must be content with the humbler task of doing all that our resources will allow to improve existing conditions.

13. *Expenditure on Sanitation.*—With reference to the concluding remark of the preceding paragraph, it is not satisfactory to observe that, though there was an increase of municipal income, the amount expended on sanitation by municipalities was somewhat curtailed. The Sanitary Commissioner complains that nothing is done towards the removal of grave sanitary defects, while plenty of money is forthcoming for lighting, watering roads, and education. Dr. Lidderdale cites some instances in which either nothing was spent on sanitation proper, or in which the amounts allotted were clearly inadequate; but Sir Steuart Bayley is unable to agree that education can properly be described as a secondary requirement. Again, the Inspector-General of Police annually complains of the inadequate sums spent on lighting; and no doubt good lighting goes a long way towards putting a stop to the commission of theft and house-breaking at night. Although, however, the Lieutenant-Governor is unable fully to accept Dr. Lidderdale's views on these points, he is satisfied that, in some municipalities, the allotments made for sanitation are small in comparison with the amounts devoted to other objects.

14. *Sanitary works.*—In the town of Darjeeling the water-works scheme was extended, while a scheme for supplying Jamalpore was brought into operation during the year. The Bhagulpore scheme is not yet complete. A scheme for supplying Puri with good drinking-water is now under the consideration of Government. The question of a filtered water-supply for Howrah is not being pushed forward with that energy and determination which so important a matter calls for. The orders passed by Government in 1883 and 1885 distinctly stated that the condition on which Government undertook, under section 7 of Act IV (B.C.) of 1884, to relieve the municipality of two-thirds of its police charges, was that a satisfactory scheme for the supply of filtered water to the town would be adopted within a reasonable time. The Lieutenant-Governor has already had occasion to intimate that, if the scheme be not pushed forward in earnest, he may have to reconsider this engagement. The question of drainage is beginning to attract more attention, and during the year some satisfactory progress was made in this direction.

15. *Legislation.*—Act VI (B.C.) of 1886 was passed during the year under report. It provides for the voluntary registration of births, deaths, and marriages among persons to whom the provisions of the Indian Succession Act, the Indian Christian Marriage Act, and the Parsee Marriage and Divorce Act apply. It has been decided in the General (Ecclesiastical) Department of this Government that

the Inspector-General of Registration is to be appointed Registrar-General under this Act, and that his department must be largely used in working its provisions. He has accordingly been asked to submit detailed proposals for submission to the Government of India. The Bill to amend the Vaccination Act was passed as Act II (B.C.) of 1887 after the close of the year. This Act gives larger powers of vaccination and inspection, and its working should be briefly noticed in the report for the present year. Act III (B.C.) of 1886 (known as the Ghee Act) was passed during the year. It is now under the consideration of Government whether any further legislation is required regarding the adulteration of ghee. The Local Self-Government Act III (B.C.) of 1885 was introduced during the year into all the districts in the province, except the Chota Nagpore Division, and the districts of Darjeeling, the Sonthal Pergunnahs, and the Chittagong Hill Tracts. It will be considered in the Municipal Department whether sections 87 to 91, relating to sanitation, and sections 92 to 96, relating to vaccination, should be introduced into these districts.

By order of the Lieutenant-Governor of Bengal,

J. WARE EDGAR,

Offg. Chief Secy. to the Govt. of Bengal.

No. 3354P.

Copy of the above Resolution, and of the Report, submitted to the Government of India in the Home Department for information.

No. 3355P.

Copy of the above Resolution forwarded to the Sanitary Commissioner for information and guidance.

No. 3356P.

Copy of the above Resolution, and of the Report, forwarded to the Inspector-General of Civil Hospitals for information.

Circular No. 26P.

Copy of the above Resolution, and of the Report, forwarded to all Commissioners of Divisions for information, with the request that paragraph 4 of the Report may be communicated to District Magistrates and Municipal Commissioners of towns in which the Compulsory Registration Act is in force. The attention of the Magistrates should also be drawn to paragraph 155 of the Report.

No. 3357P.

EXTRACT paragraph 3 of the above Resolution, and paragraph 4 of the Report, forwarded to the Inspector-General of Police for information and communication to District Superintendents of Police.

No. 3357½P.

Copy of the above Resolution, together with the extract paragraph 5 of the Report, forwarded to the Municipal Department for information.

By order of the Lieutenant-Governor of Bengal,

H. W. C. CARNDUFF,

Offg. Under-Secretary to the Govt. of Bengal.

CALCUTTA,

The 9th November 1887.

